2017

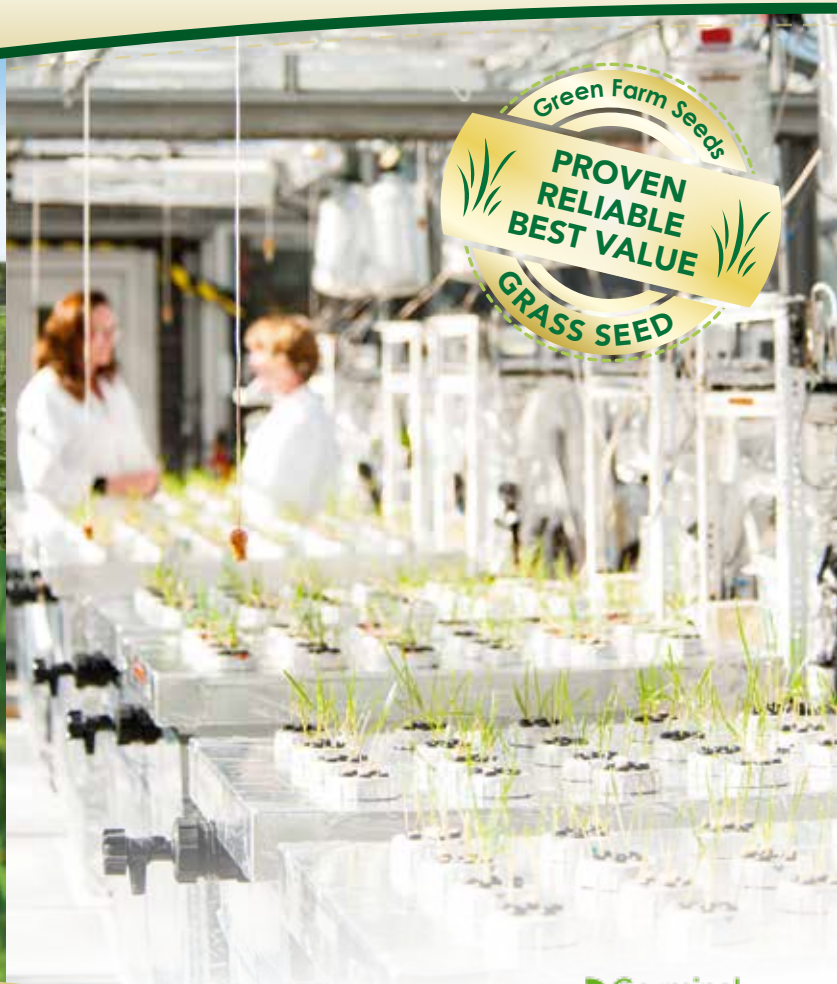
Green Farm Seeds

GRASS SEED
PRODUCT GUIDE

agricultural grass, amenity grass,
arable silage & lucerne

Green Farm Seeds
PROVEN
RELIABLE
BEST VALUE
GRASS SEED

Green Farm seeds



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Special Mixtures

We can offer a special mixture service for any of the above types of mixtures.

Organic versions of all mixtures available.

BIOTAL

Market Leader

- **Biotal is one of the UK's leading suppliers of forage additives and feed supplements**
- **Biotal uses naturally occurring micro-organisms and enzyme formulations**
- **Biotal has a range of quality products for Grass, Maize,**
- **Wholecrop and Crimped Maize**
- **The aim of the Biotal products is to produce high quality forage, ensuring optimum efficiency within a ruminant feeding system**
- **Biotal products are ready for immediate despatch**

For additional information on Biotal Products please call or visit our website.

AGRICULTURAL GRASS MIXTURES

PREMIER ITALIAN RYEGRASS BLEND

(1-2 year cutting)

30% Diploid Italian Ryegrass
30% Diploid Italian Ryegrass
40% Tetraploid Italian Ryegrass (T)

Economy version available

Heading date 18th May

Benefits

- Economically priced, high yielding Italian Ryegrass mixture
- **Uses only UK varieties which are fully recommended**
- Persistent varieties that will last the full 2 years if required
- Higher % of diploid species increases plant population and sward density
- A very vigorous mixture, providing rapid establishment
- Suited to late sowings after Maize or Cereals
- Ideal for utilising residual soil nutrients
- Italian Ryegrasses offer long growing seasons for cutting, do not over graze them
- Very responsive to nitrogen fertiliser
- **Suitable for biogas production**

Sowing Rate (Kg/Acre)	12.5 to 15
Overseeding Rate (Kg/Acre)	10

WESTERWOLDS

(1 year cutting)

100% Westerwolds
Lifloria / Liquattro

DSV

Heading date depending on sowing date

Benefits

- The highest yielding Ryegrass for silage production
- A rapidly establishing annual catch crop species with a short growing period
- Usually Spring sown due to limited Winter hardiness
- Very responsive to nitrogen fertiliser
- Frequent cutting required to maintain leaf
- Suitable for routine or emergency catch cropping
- Could head 10 weeks after spring sowing
- Aggressive seedlings

Sowing Rate (Kg/Acre)	12.5 to 15
Overseeding Rate (Kg/Acre)	10

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BIOTAL

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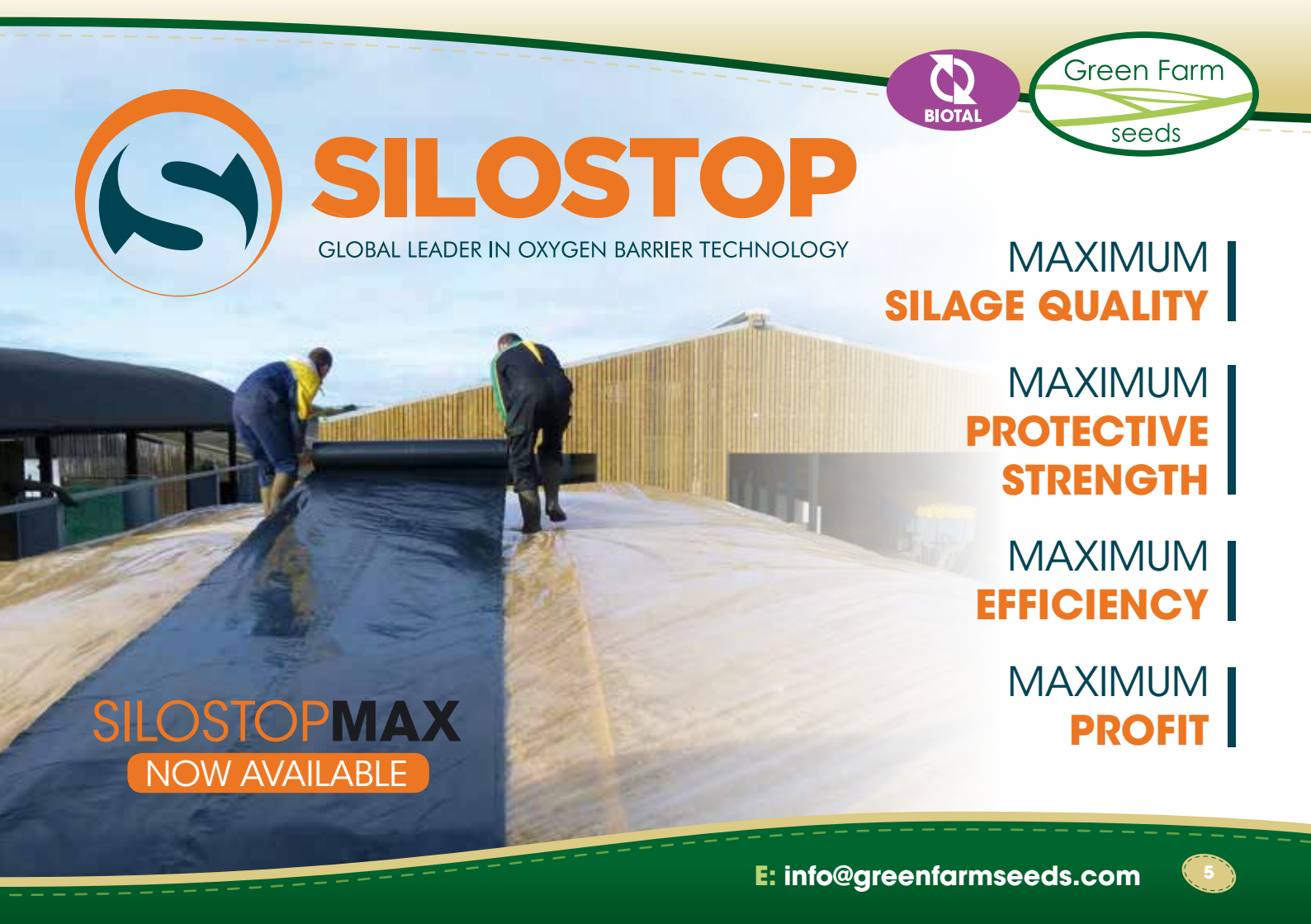
SILOSTOP

GLOBAL LEADER IN OXYGEN BARRIER TECHNOLOGY



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MAXIMUM
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MAXIMUM
EFFICIENCY

MAXIMUM
PROFIT

SILOSTOP**MAX**

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AGRICULTURAL GRASS MIXTURES

PIT FILLER
(2 year cutting)

4.0kg	Gemini	Italian Ryegrass (T)
3.0kg	Alamo	Italian Ryegrass
4.0kg	Danergo/Kigezi	Italian Ryegrass (T)
3.0kg	Fox	Italian Ryegrass

Heading date 18th May

Benefits
- Premium quality short term cutting mixture based on yield and digestibility
- Varieties used ensure maximum digestibility from silage
- Close heading dates allow easy prediction of cutting
- Superb mixture for continuous cutting, will reach 70 D in 4-5 weeks after defoliation
- Extremely good disease resistance and winter hardiness
- Vigorous to establish varieties allow early or late sowings

Sowing Rate (Kg/Acre)	14
Overseeding Rate (Kg/Acre)	10

TOP CUT
(3-4 year cutting & grazing)

4.0kg	Lofa	Advanced Hybrid (T) NEW
4.0kg	Citeliac	Hybrid Ryegrass (T)
2.0kg	Solomon	Intermediate Ryegrass
2.0kg	Boyne	Intermediate Ryegrass NEW
2.0kg	Glenstal	Intermediate Ryegrass (T)

Heading date 21st May

New Formula

Benefits
- Lofa advanced Hybrid included in mix for persistency of yield and quality
- Boyne is the highest yielding Ryegrass under conservation management
- A cutting ley with the advantage of supplying very good grazing
- Provides maximum conservation and aftermath digestibility
- Top Cut produces high yields with excellent recovery from cutting
- Excellent D-values ensure Top Cut provides the highest possible quality silage
- No clover ensures ease of management
- **Suitable for biogas production**

Sowing Rate (Kg/Acre)	14
Overseeding Rate (Kg/Acre)	10

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AGRICULTURAL GRASS MIXTURES

PIT FILLER & RED CLOVER
(2 year cutting)

2.5kg	Gemini	Italian Ryegrass (T)
2.5kg	Alamo	Italian Ryegrass
2.5kg	Kigezi/Danergo	Italian Ryegrass (T) NEW
2.5kg	Fox	Italian Ryegrass
2.0kg	Red Clover Blend	

Heading date 18th May

Increase Soil Nitrogen

Benefits
- A high yielding 2 year silage ley with limited fertiliser requirements
- Red Clover increases the crude protein content of the silage to approx 20%
- Red Clover increases animal intake levels
- Higher milk and liveweight gains will be achieved compared to grass silage
- Red Clover grows well in most soil conditions and is drought resistant

Sowing Rate (Kg/Acre)	**12**
Overseeding Rate (Kg/Acre)	**10**

TOP CUT & RED CLOVER
(3-4 year cutting)

3.0kg	Lofa	Advanced Hybrid (T) NEW
3.0kg	Citeliac	Hybrid Ryegrass (T)
2.0kg	Solomon	Intermediate Ryegrass
2.0kg	Boyne	Intermediate Ryegrass
2.0kg	Red Clover Blend	

Heading date 21st May

Benefits
- A highly productive and persistent 3-4 year Red Clover and grass ley
- Can provide 3 cuts per year of high protein forage
- Red Clover can fix up to 150 kg N ha (120 units per acre) annually
- A valuable 3 year break crop fixing Nitrogen
- Red Clover tap root improves soil structure

Sowing Rate (Kg/Acre)	**12**
Overseeding Rate (Kg/Acre)	**10**

Red Clover is low in dry matter and water soluble carbohydrates. Therefore for effective fermentation, the crop will need to be wilted and or an effective additive applied.

Green Farm seeds

working with Germinal

Aber® High Sugar Grass

- **Innovation, research and technology, for future growth**
- Top ranking ryegrasses on independent Recommended Lists
- Higher D-value (quality) drives increased milk yield or live weight gain per hectare
- Bred at IBERS Aberystwyth University to perform under UK conditions
- Multi-award winning varieties
- Proven to reduce Methane/greenhouse gas emissions
- Research into disease and pest resistance on grassland clover varieties
- Improved tolerances of flooding, drought and nutrient (P & K) use efficiency
- Improving human health aspects of meat and milk consumption

Your route to higher production from forage

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AGRICULTURAL GRASS MIXTURES

HI – D BRITISH BRED

(Long Term cutting & grazing)

Maximum Returns Per Acre

Aber 100%

2.0kg	Aber®Green	Intermediate Ryegrass
2.25kg	Aber®Wolf **NEW**	Intermediate Ryegrass
2.0kg	Aber®Clyde **NEW**	Intermediate Ryegrass (T)
3.0kg	Aber®Avon	Late Ryegrass
3.0kg	Aber®Gain	Late Ryegrass (T)
0.35kg	Aber®Dai	White Clover
0.40kg	Aber®Herald	White Clover

No clover option available

Benefits

- Now contains Aber®Wolf, highest total grazing, first cut yields and highest grazing D Value, a very dense and prolific variety
- Hi D combines varieties with the highest digestibility available, this produces the highest energy yield (ME) for both grazing and conservation
- Hi D is a unique blend of leading varieties to increase profits per ha
- Heading date range 27th May to 4th June proven to produce optimum yields and persistency under both cutting and grazing
- All varieties selected have higher D Value than 76.7%, which is the average of all recommended varieties improving dry matter intakes
- Premium British White Clovers increase protein levels and palatability

- Quality varieties produce a superbly dense and persistent sward
- High scores for **crown rust** and **drechslera**
- Maximum milk, meat production and financial returns per ha
- Aber®Green highest grazing yield and D-value on recommended list, also NIAB cup winner for excellence 2015
- Aber®Clyde exceptionally high full season growth and energy production
- Aber®Clyde Pasture Profit champion 2017 with highest overall ratings per ha.

Hi D (Ultimate in Grass Performance)

Aber Advantage	Grazing	Cutting
ME yield of Aber®Hi D	137,668 MJ/ha	184,744 MJ/ha
Average of comparable varieties	129,914 MJ/ha	178,147 MJ/ha
Extra ME yield of Aber®Hi D	7,754 MJ/ha	6,597 MJ/ha
Aber advantage Milk	**1,266 litres/ha**	**1,282 litres/ha**
Aber advantage Meat	**253 kg/ha**	**340 kg/ha**

Sowing Rate (Kg/Acre)	**13**
Overseeding Rate (Kg/Acre)	**10**

Standard variety version of this mixture available at reduced cost

HI – INTAKE

(Long Term pasture with Timothy)

Maximum Sward Density

2.0kg	Aber®Dart	Intermediate Ryegrass
2.0kg	Aber®Avon	Late Ryegrass
2.5kg	Twymax	Late Ryegrass (T)
3.0kg	Foxtrot	Late Ryegrass
3.0kg	Cancan	Late Ryegrass
1.0kg	Promesse	Timothy
0.5kg	GFS	White Clover Blend NEW

Available with Puna II Chicory (pages 16-17)

Benefits

- Improved grazing D value and ground cover for 2016
- An extremely productive blend of the highest grazing D Value varieties
- All varieties exhibit brilliant grazing and aftermath digestibility
- Hi-Intake's consistent growth throughout the season allows ease of grazing management
- High scores for **crown rust** maximises palatability and production
- Clover content based on highly productive NIAB tested varieties
- Late PRGs provide excellent ground cover and winter hardiness
- Suitable for all livestock types with no compromise on feed quality

Hi Intake (Grazing Grass Performance)

Varieties	Grazing Yield 100% = 10.58 t/ha	Grazing D Value	Ground Cover
Aber Dart	101	77	7.1
Twymax	101	77.3	6.3
Aber Avon	103	77	7.2
Foxtrot	101	76	6.7
Cancan	102	76	6.8
Control Av.	97	72.7	5

Measure of Quality

1 unit of D value over 67 D equates to

- 10.7% increase in LWG sheep • 4.3% increase in LWG beef

Sowing Rate (Kg/Acre)	14
Overseeding Rate (Kg/Acre)	10

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AGRICULTURAL GRASS MIXTURES

TRADITIONAL MEADOW
(Permanent Pasture)

7.0kg	Laura	Meadow Fescue
3.0kg	Promesse	Timothy
1.5kg	Evora	Smooth Stalked Meadow Grass
1.4kg	Maxima	Creeping Red Fescue
1.0kg	Crested Dogstail	
0.1kg	Meadow Foxtail	

Benefits
- Once established a very persistent sward will be produced
- A traditional style mixture based on non aggressive grass species
- Ideal for low input and a more environmental approach to livestock farming
- Suitable for full season grazing or the production of meadow hay
- The diversity of species increases Winter hardiness and drought tolerance
- Inclusion of Clover and Wildflower options available

- **Suitable for Non Ryegrass Equine pastures**
- **Low sugar content makes it ideal for laminitis and dietary issues in equine**

Sowing Rate (Kg/Acre)	**14**
Overseeding Rate (Kg/Acre)	**12**

HORSE & PONY PADDOCK
(Long Term multi purpose)

2.0kg	Early Ryegrass
2.25kg	Intermediate Ryegrass
3.25kg	Late Ryegrass
3.0kg	Amenity Perennial Ryegrass
2.0kg	Creeping Red Fescue
1.5kg	Timothy

Paddock Fertisiler available in 25kgs

Herbal Option available

Benefits
- Provides good quality, palatable grazing for horses
- Produces a dense, hardwearing easy to manage sward
- Creates a good crop of hay if the paddock is closed up
- Creeping Red Fescue minimises trampling damage in wet conditions
- Suitable for exercise ground as well as providing feed
- Saves money on supplementary feeds
- **High seed rate** ensures good establishment
- **Also suitable for patching worn paddocks**

Sowing Rate (Kg/Acre)	**14**
Overseeding Rate (Kg/Acre)	**10**

PREMIER HAYLAGE

(2 year Hard Hay / Haylage Mixture)

4.0kg	Limeta	Italian Ryegrass
4.0kg	Alamo	Italian Ryegrass
6.0kg	Ligunda	Hybrid Ryegrass

Benefits

- Varieties used have excellent disease resistance, producing a clean quality feed
- All **diploid** varieties are used for uniform drying
- Will provide good yields of both hard hay or haylage
- Two high yielding cuts per year can be achieved
- This mixture can be cut late May early June
- Very responsive to Nitrogen fertiliser
- All species vigorous to establish

- **Long term Hay and Haylage mixtures also available**

Sowing Rate (Kg/Acre)	**14**

GFS RENOVATION

Economically Priced

4.00kg	Agricultural Ryegrass
4.50kg	Agricultural Ryegrass (T)
4.00kg	Agricultural Ryegrass

Packed in 12.5 kgs

Benefits

- All seed listed and fully certified
- Perfect for renovation / patching of poached or tired swards
- Ideal for improving gateways, feeding areas and tracks
- Improves productivity and stock carrying of the existing sward
- Increases flexibility in management of old swards
- This all Ryegrass mixture is ideal for direct and overseeding techniques

Sowing Rate (Kg/Acre)	**12.5**
Overseeding Rate (Kg/Acre)	**12.5**

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ESTABLISHMENT

KEY POINTS TO GRASS & CLOVER ESTABLISHMENT

- Correct soil pH of grass and clover is 5.8-6.0 which also increases bacterial and worm activity
- P & K indexes of 2 are essential for strong grass and clover growth
- Compaction inhibits root growth and grass yield. Rectify at establishment
- Control any problem weeds. Effective prevention of weed invasion is better than cure
- Weed grasses can dominate reseeds if not effectively desiccated before planting
- Take measures to control possible pest attacks. Consider a pesticide mixed with the herbicide when desiccating the previous crop. This is particularly important when planting continuous grass
- Ensure a fine firm seed bed is achieved. Firmness guarantees contact between sown seed and moisture which equals germination
- Sow at a depth of 10 to 15 mm, any deeper and germination is severally reduced
- Roll and roll again to provide soil to moisture contact and germination
- Consider a seed bed fertiliser. A general recommendation for P & K indexes 2 would be 60N, 75P and 60K (kg/ha)
- Keep an eye out for slugs especially in wet seasons. Every three weeks eggs can hatch, in warm conditions this could be every ten days
- Graze down to 3 to 6 cm at intervals during early establishment phase

MULTI-SPECIES / HERBAL LEYS

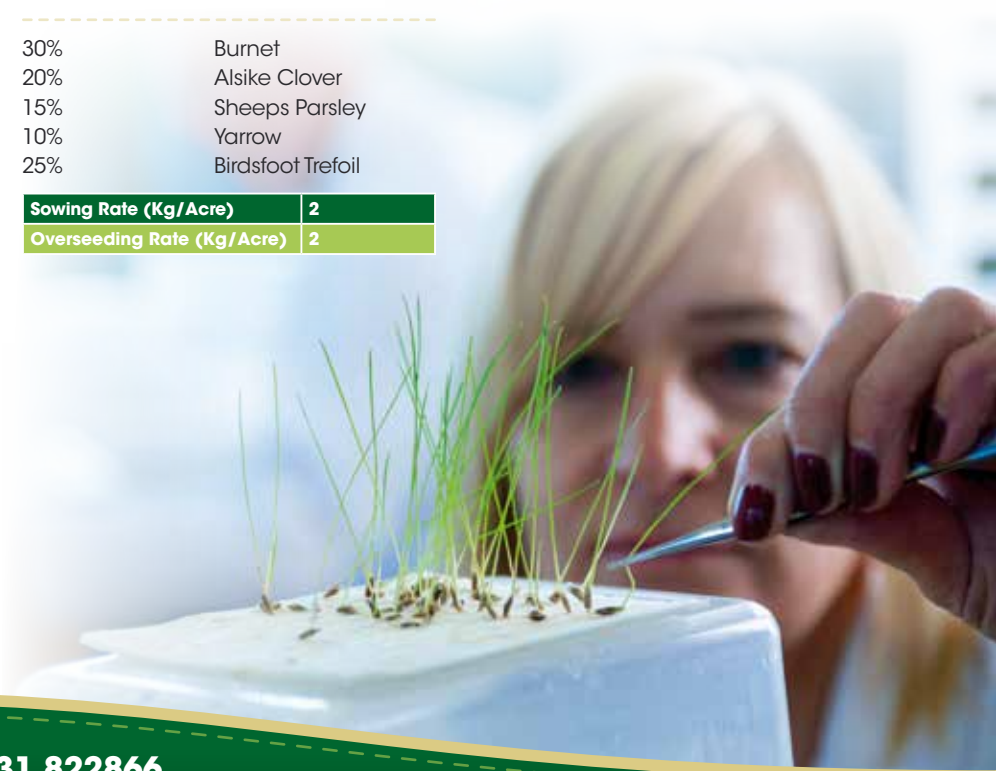
Benefits

- Multi-species leys combine different plant types with complimentary characteristics.
- These mixtures contain nitrogen fixing legumes combined with nitrogen lifting grasses.
- Varying sward growth habits maximise light, moisture and nutrient uptakes
- Very effective at improving the soil profile
- Enhanced production and livestock performance particularly in low input systems with reduced fertiliser.
- Improved nutritional potential from several sources of protein, energy and minerals.
- Full season production even in drought situations
- Potential Green Energy production for anaerobic digestion particularly in low input systems or marginal growing areas.

OPTIONAL HERB MIX

30%	Burnet
20%	Alsike Clover
15%	Sheeps Parsley
10%	Yarrow
25%	Birdsfoot Trefoil

Sowing Rate (Kg/Acre)	2
Overseeding Rate (Kg/Acre)	2



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MULTI-SPECIES / HERBAL LEYS

MULTI-SPECIES GRAZING
(Long Term)

3.00 kg	Aber®Wolf	Intermediate Ryegrass
3.00 kg	Aber®Green	Late Ryegrass
1.00 kg	Pesto	Timothy
1.00 kg	Tonic	Plantain
1.00 kg	Puna II	Perennial Chicory
1.50 kg	Aber®Pasture	White Clover Blend
1.50 kg	Aber®Claret	Red Clover

Herbal Option available

Benefits
- Suitable for all soil types, particularly productive in drier or drought conditions
- Ideal for intensive rotational grazing of dairy cows, youngstock and lamb finishing.
- Good full season production
- Will produce an extremely palitable and persistant sward

Sowing Rate (Kg/Acre)	12
Overseeding Rate (Kg/Acre)	10

MULTI-SPECIES CUTTING
(Long Term)

3.00 kg	Aber®Wolf	Intermediate Ryegrass
3.00 kg	Aber®Green	Late Ryegrass
1.00 kg	Pesto	Timothy
1.00 kg	Tonic	Plantain
1.50 kg	Aber®Pasture	White Clover Blend
1.50 kg	Aber®Claret	Red Clover
5.00 kg	Early English	Vetch
1.00 kg	Balansa	Annual White Clover

Herbal Option available

Benefits
- 1st cut will be taken followed by high quality aftermath grazing (no chicory.)
- Could be undersown to a spring cereal to produce an initial wholecrop silage
- The annual legumes (vetch & Balansa clover) will die back in 2nd season leaving a dense grass, clover and herbal sward.

Sowing Rate (Kg/Acre)	17
Overseeding Rate (Kg/Acre)	13

GRASS FOR ANAEROBIC DIGESTION

Benefits

- Grass as a crop is relatively cheap and easy to grow in our climate
- It is cost effective compared to other biogas crops (comparisons available)
- Equipment and infrastructure to grow and handle grass is often already in place
- Grass can be used fresh (offering the highest rate of gas production) or it can 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 digesters, whether that is liquid or solid, without the need to plough
- **Blackgrass control:**
  - Medium to long term 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 (more details available)
- Grass will build up nutrients and humus in the soil
- Where there is a major risk of soil erosion or need for ground water protection
- Grass will produce in areas that are unsuitable for other crops i.e. wetter areas
- Biogas substrate can be applied to fields during the growing season
- Multi cuts are low cost and there can be a forage/Biogas split in production required

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ABER® HIGH ENERGY GRASS FOR AD

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

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

AD SHORT TERM 2-3 YEAR

4kg	Aber®Echo HSG	Hybrid Ryegrass (T)
5kg	Aber®Eve HSG	Hybrid Ryegrass (T)
5kg	Aber®Niche	Festulolium

AD MEDIUM TERM 3-4 YEAR

6kg	Aber®Echo HSG	Hybrid Ryegrass (T)
8kg	Aber®Magic HSG	Perennial Ryegrass

AD LONG TERM 4 YEAR+

5kg	Aber®Magic HSG	Perennial Ryegrass
4kg	Aber®Green HSG	Perennial Ryegrass
5kg	Aber®Bite HSG	Perennial Ryegrass (T)

Sowing Rate (Kg/Acre)	14
Overseeding Rate (Kg/Acre)	10

LUCERNE

Lucerne is a high protein, leguminous forage crop, which can be stored as clamp or big bale silage. Lucerne thrives very well on well drained soils with a sufficient content of Lime, Potash and Phosphate.

Characteristics

- Lucerne is a high protein with high digestibility legume which is usually grown for cutting
- Lucerne's high protein makes it extremely useful as a complementary forage to grass and maize
- It has a deep tap root system and is able to withstand severe drought
- It is a productive plant with high nutritional value
- Lucerne can be grown successfully on a wide range of fertile free-draining sites and soil types
- Lucerne will not thrive in waterlogged soils, so the general advice is to avoid heavier land and cold wet soils
- To minimise the threat of pests and diseases, a period of five years should be allowed in the rotation between Lucerne crops
- Lucerne is a legume that leaves significant residual Nitrogen for following crops
- Lucerne forage increases animal fibre intake
- Don't over graze in the winter or drive on the crop in wet conditions to avoid damage to the crown
- Will remain productive and thrive for 3 – 4 years

Annual P and K requirements for 3-cut system (kg/ha)

SOIL P & K INDEX	0	1	2	3	4
P	130	105	80	20	0
K	340	290	250	90	0

Some of the P and K can be supplied in manures / slurry. Eg 40 m3/ha dairy cow slurry may supply up to 48kg/ha P and 140 kg/ha K.

Sowing and Establishment

Lucerne should be sown when soils are warm into a fine and firm seedbed to a depth of 0.5-1cm.
Spring sowing (from late April) tends to be more common with Lucerne as this ensures strong plants going into the first winter. Lucerne can be sown successfully up to the middle of August.

Inoculation

Lucerne seed should always be inoculated with a culture of live Rhizobia Meliloti bacteria to ensure successful root nodulation and efficient Nitrogen-Fixing.

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LUCERNE

Crop Management

Key points in Lucerne persistency:

- Allow plants to flower once a year; this ensures storage of nutrients in the tap root to improve Winter hardiness and boost Spring growth
- Cut when 10% of flowers are showing (early bud stage)
- Aim for an optimum cutting height of 7cm to promote regrowth

Cutting, grazing and feeding Lucerne

Ensiling best practice to bale or clamp

- Aim for a target dry matter of 30-40% for clamp silage and 50% for bales
- Chop to 3-4cm and roll well in the clamp
- For bales, wilt to 40-60% dry matter and ensure at least four layers of plastic to minimise the risk of stems piercing the wrap
- Always use an additive as Lucerne is low in sugars and difficult to ferment, we recommended Biotal Maxcool

Variety Choice

'Provence' types are very drought tolerant and have a long growing season, but are not Winter hardy in the UK. In comparison the 'Flemish' types are more cold-tolerant, due to their Winter dormancy, and will yield well over three or four large silage cuts annually.

Winter dormancy ratings range from 1 (very dormant in Winter) to 12 (virtually no Winter dormancy), and the optimum for UK conditions is 4 to 5.

Our UK selected varieties are Flemish dormant types with medium thick stems. Good early Spring growth and a very vigorous growth in Summer and Autumn, the flowering time is early. The dormancy rate is 4-5. As well as high resistance ratings to stem nematode and Verticillium wilt.

UK proven varieties available from Green Farm Seeds Daisy, Timbale, and GalaxyMax.

CHARACTERISTIC	RED CLOVER	WHITE CLOVER / GRASS	LUCERNE
Soil type	All types	All types	Well drained
Ideal pH	5.8-7.5	5.8-7.0	6.2-8.5
Establishment rate	Fast	Medium	Medium
Inoculation needed	No	No	Yes
Drought tolerance	High	Medium	Very high
Persistence	Low	Very High	Medium
Regrowth rate	High	High	High
Yield	10-15 tonnes DM/ha	4-10 tonnes DM/ha	10-15 tonnes DM/ha
Silage quality	ME 9.8-11 MJ/kg/DM CP 16-22% pH 4-4.5	ME 9.8-12 MJ/kg/DM CP 16-20% pH 3.5-5.5	ME 9.0-11 MJ/kg/DM CP 18-24% pH 4.3-4.4

Green Farm seeds

PUNA II CHICORY

What is Puna II chicory?

Puna II chicory is a broad-leaved perennial forage crop that offers high yields of very palatable and nutritious fodder for grazing livestock. Extensively proven in New Zealand, Puna II chicory is now being grown successfully in the UK.

How is it best used?

- Pure stand, or in a mixed sward with grass and clover
- Medium – Long term rotationally grazed leys (2-6 yr persistency)
- Ideal for finishing lambs and provides high quality fodder for cattle
- High yield and forage value within grazing mixtures

What are the main benefits?

- Outstanding animal performance
- 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 and does not cause bloat
- Can deliver lamb growth rates of 300-400g/day
- Provides high quality feed through the summer

Finishing lambs on Puna II chicory

Typical mixture

4.0kg	Puna II chicory
5.0kg	AberRuby red clover
4.0kg	AberHerald white clover

Sowing Rate (Kg/ha)	13.0

Crop establishment

Sowing:

- Control broad-leaved weeds before sowing
- Sow in spring or (mixed swards only) early autumn
- Seed rate 0.5-2kg/ha (with grass/clover); 4-6kg/ha (pure stand); 4kg/ha (white/red clover)
- Well-drained soils
- Drill to a maximum depth of 10mm, or broadcast
- Use slug bait to improve establishment

Crop nutrition:

- Moderate – high soil fertility
- Similar N, P and K to grass at establishment
- Responds well to N (does not fix nitrogen)

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PUNA II CHICORY

Persistency, vigour and uniformity

- Selection strategy in breeding Puna II chicory has included tolerance to the fungal disease Sclerotinia
- Independent screening also selects for a more erect and winter-active plant, resulting in a more ergonomically versatile variety

Grazing management

- Graze when crop height reaches 150-200mm (when plants are resistant to uprooting)
- Rotationally graze for best results (ideally short, light spells)
- Grazing strategy should aim to avoid flower heads developing (except once in the autumn as this can aid persistency)
- Avoid damage to the crown (e.g. hard grazing in wet conditions), as this will reduce productivity and persistency
- Limit milking cows to 25% of total dry matter intake to avoid risks of milk taint
- If chicory gets out of control, either graze with cattle or top
- Grazing is preferable because topping can allow water to penetrate the hollow stem and this can kill the plant
- Growth rates will drop if temperature falls below 10°

TONIC PLANTAIN

- Tonic Plantain is a broad leaved perennial herb with a fibrous root system which can produce a forage crop that can be fed to both cows and sheep.
- Plantain suits a range of soil types and can be grown on its own or mixed with a grass and clover ley.
- As herbs, both Tonic Plantain and Puna II Chicory are ideal companions in multi species swards along with other grasses and legumes.

Benefits

- It is highly productive and can produce improved live weight gain in livestock.
- Improved dry matter production and quality at key times of the year.Tonic plantain can produce over 15 tonnes of dry matter per ha per year.
- Tonic has a positive impact on animal performance by improving the supply of some trace elements.
- Ideally suited to intensive or rotational grazing systems, with rapid regrowth post grazing in dry summers.

Sowing Rate (Kg/Acre)	2.5
Mixture Inclusion Rate (Kg/Acre)	1

ARABLE SILAGE MIXTURES

Arable silage mixtures offer an alternative or additional feed to grass or maize silage and are particularly suitable for farmers wishing to increase their levels of home-produced protein, and reduce their reliance on purchased feed and fertiliser. They produce cost effective, high quality forage of consistent quality and palatability with high yields of dry matter.

Benefits

- Harvest arable silage in early August, giving the use of land for the following winter
- A well balanced mixture of peas and cereals sown in March / early April can be ready for harvest in 12-14 weeks
- Can increase protein by 40-60% over straight cereals
- A high dry matter crop which does not require wilting
- More long fibre to stimulate rumen – 'scratch factor'
- Well suited to areas of the UK where Maize production is marginal
- A low cost source of readily available starch and protein
- An excellent Winter forage for dairy cows, cattle and sheep
- A valuable cover crop for the establishment of grass or grass and clover leys
- High DM yields of starch and protein
- Reliable crop with rapid germination and short growing season
- With high intake characteristics

Drill arable silage, then sow the under sown grass seeds on the same day, roll in.

Standard Mixtures

Barley is the preferred cereal as it produces better feeding value than higher yielding Oats or Wheat which dilute the important contribution of the grain by producing high yields of straw, thereby reducing the digestibility.

A blend of high yielding spring barley, with high protein and high yielding peas with very good standing ability.

GFS BIP Mix
60% Spring Peas
40% Spring Barley

GFS PIB Mix
60% Spring Barley
40% Spring Peas

Sowing Rate (Kg/Acre)	75
Undersowing Rate (Kg/Acre)	40-50

Mixed to your own specification and requirements containing Oats, Triticale, Vetch or Maple Peas.

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Harvesting points

- Cut fermented cereal whole crop when the grain is at the soft/ cheesy stage, at about 30-40% DM. There will still be green in the stems (50% green – 50% yellow)
- Once at the correct growth stage DONT DELAY, growth stages change rapidly and DM can change by 2% per day so cut without delay, go early rather than late.
- Cutting height of about 10cm leaving rubbish in the bottom
- A short chop length and good compaction of the clamp is required to improve fermentation stability as the crop has a high DM content
- An additive is recommended to improve fermentation we recommend Biotal Wholecrop

Typical Barley and Pea Analysis – fermented

Fresh Yield	23-25 T/ha
Dry Matter	30-40%
ME	9-11 MJ/kg
Crude Protein	12-15%
pH	4.0-4.6
Starch	14-20%
D Value	70

Also available bespoke mixtures conventional and organic

Green Farm seeds

WELL PROVEN MIXTURES

ORCHARD MIXTURES

With the increasing number of commercial and heritage orchards being established, we have two well proven orchard grass seed mixtures.

ORCHARD MIXTURE WITH RYEGRASS

30%	Dwarf Perennial Ryegrass
20%	Chewings Fescue
40%	Strong Creeping Red Fescue
10%	Highland Browntop Bent

The addition of a turf type ryegrass is suitable, when rapid establishment is required.

Benefits

- Reduced maintenance mixtures
- Reliable to germinate and establish
- Fine grass which reduces growth and grass yield
- Dense hard wearing swards will be produced

Sowing Rate (Kg/Acre)	25-50
Mowing Height (mm)	40-60

ORCHARD MIXTURE WITHOUT RYEGRASS

50%	Chewings Fescue
40%	Strong Creeping Red Fescue
10%	Highland Browntop Bent

The traditional low maintenance hard wearing orchard mixture.

There is an option to include species rich wild flowers into this mixture. Please call to discuss.

Benefits

- Visually attractive with good quality cultivars
- Will tolerate regular or infrequent mowing
- Suited to a wide range of soil types
- Will help suppress weed infestation

Sowing Rate (Kg/Acre)	25-50
Mowing Height (mm)	40-60

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SPORTS

SPORTS FIELDS

25%	Double	Tetraploid Ryegrass NEW
20%	Bizet	Perennial Ryegrass
25%	Ponderosa	Perennial Ryegrass
30%	Herald	Strong Creeping Red Fescue

Benefits

- A versatile mixture that produces a very hard wearing sward
- High shoot density
- Suitable for Winter and Summer games including football, rugby, hockey and cricket
- Ideal mixture for schools and sports clubs where space is at a premium

Sowing Rate (g/m²)	35-50
Overseeding Rate (g/m²)	25-50
Mowing Height down to (mm)	12

SPORTS FIELD RENOVATION ECONOMY

50%	Double	Perennial Ryegrass NEW
30%	Esquire	Perennial Ryegrass
20%	Ponderosa	Perennial Rygrass

Benefits

- An economical sports field mixture
- Will establish rapidly providing excellent colour and disease resistance
- The Ryegrasses selected offer good wear tolerance

Sowing Rate (g/m²)	35-75
Overseeding Rate (g/m²)	35-75
Mowing Height down to (mm)	25

SPORTS FIELD RENOVATION PREMIER - NEW FORMULA

30%	Bizet	Perennial Ryegrass
20%	Monroe	Perennial Ryegrass
30%	Berlioz	Perennial Ryegrass
20%	Columbine	Perennial Ryegrass

Benefits

- Ideal mixture for the renovation of worn playing surfaces
- Well proven premier quality mixture
- Establishes rapidly
- Inclusion of Bizet perennial ryegrass provides a hard wearing turf with excellent colour and disease resistance

Sowing Rate (g/m²)	35-75
Overseeding Rate (g/m²)	35-75
Mowing Height down to (mm)	25

All Sport seed packed in 20kgs

GREENSCAPE

A hard wearing lawn **with Ryegrass.**

DESCRIPTION

Using modern dwarf type Perennial Ryegrasses, Greenscape produces a rapid lawn whilst being very hard wearing. Vigorous roots strengthen the turf and give it superior resilience and durability.

SUITABILITY

This excellent, all-round mixture will perform well in the majority of general domestic situations.

SPECIES USED

30% Dwarf Ryegrasses
30% Dwarf Ryegrasses
40% Strong Creeping Red Fescue

Sowing Rate (g/m²)	35-50
Overseeding Rate (g/m²)	15-25
Mowing Height down to (mm)	10

GREENFINE

Quality lawn **without Ryegrass.**

DESCRIPTION

A quality fine textured mixture, reduces maintenance. Suitable for fine lawns and landscaping.

SUITABILITY

For a non Ryegrass lawn, where an attractive fine and relatively easy to maintain turf is required.

SPECIES USED

50% Strong Creeping Red Fescues
35% Chewings Fescue
10% Slender Creeping Red Fescue
5% Browntop Bent

Sowing Rate (g/m²)	35-50
Overseeding Rate (g/m²)	15-25
Mowing Height down to (mm)	10

QUALITY LAWN

Top quality family lawns **with Ryegrass.**

DESCRIPTION

A superior, neat, compact and durable turf is produced with uniformly fine leaves. The lower growth of these species, combined with rapid establishment, enables an attractive turf to be maintained and minimises the opportunity for weed establishment.

SUITABILITY

Top quality lawn, capable of being closely mown whilst retaining a luxury appearance.

SPECIES USED

45% Dwarf Ryegrasses
15% Chewings Fescue
25% Strong Creeping Red Fescue
10% Slender Creeping Red Fescue
5% Browntop Bent

STRI

Sowing Rate (g/m²)	35-50
Overseeding Rate (g/m²)	15-25
Mowing Height down to (mm)	10

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GREENSHADE

For shady conditions with good drought resistance. **Without Ryegrass.**

DESCRIPTION

A top quality mixture specially formulated to produce an excellent lawn under shady conditions with good drought tolerance. A mixture of shade tolerant grasses that will maintain appearance and colour in dry conditions.

SUITABILITY

For semi and relatively dense shaded areas under trees, next to high walls and hedges.

SPECIES USED

10% Hard Fescue
25% Slender Creeping Red Fescue
30% Rough Stalk Meadow Grass
30% Chewings Fescue
5% Browntop Bent

Sowing Rate (g/m²)	35-50
Overseeding Rate (g/m²)	25-50
Mowing Height down to (mm)	25

SPORTS AND TURF FERTILISER

We offer a range of turf fertilisers that have been specially designed to meet the requirements of amenity grasses and the environment.

FERTILISER

N Nitrogen	P Phosphate	K Potassium	Use
6	9	6	Reseed/Spring/Autumn
11	5	5	Spring/Summer
3	2	10 + 1 MgO, 2 Fe	Autumn/Winter
10	4	4 + 3.5 Fe	Weed feed & Moss Killer

Packed in 20kgs

2.4D + Mecoprop

AMENITY SEEDING RATES

g/m2	kg/hectare	kg/acre
15	150	60
25	250	100
35	350	140
50	500	200
75	750	300

Green Farm Seeds Ltd. reserves the right to substitute varieties should shortages occur using equivalent or better varieties. Full mixture details are provided on the label of every bag.

Green Farm Seeds

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Green Farm Seeds Supports

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