SILOSTOP MAX
NOW AVAILABLE

MAXIMUM SILAGE QUALITY
MAXIMUM EFFICIENCY
MAXIMUM PROFIT
MAXIMUM PROTECTIVE STRENGTH

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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 products stocked for immediate despatch**

- 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 and 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

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

E: info@greenfarmseeds.com
**AGRICULTURAL GRASS MIXTURES**

**WESTERWOLDS**  
(1 year cutting)

100% Westerwolds  
Lifloria / Liquattro

**Heading date depending on sowing date**

<table>
<thead>
<tr>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>The highest yielding Ryegrass for silage production</td>
</tr>
<tr>
<td>A rapidly establishing annual catch crop species with a short growing period</td>
</tr>
<tr>
<td>Usually Spring sown due to limited Winter hardiness</td>
</tr>
<tr>
<td>Very responsive to nitrogen fertiliser</td>
</tr>
<tr>
<td>Frequent cutting required to maintain leaf</td>
</tr>
<tr>
<td>Suitable for routine or emergency catch cropping</td>
</tr>
<tr>
<td>Could head 10 weeks after spring sowing</td>
</tr>
<tr>
<td>Aggressive seedling growth</td>
</tr>
</tbody>
</table>

**PREMIER ITALIAN RYEGRASS BLEND**  
(1-2 year cutting)

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

**Heading date 18th May**

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

<table>
<thead>
<tr>
<th>Sowing Rate (Kg/Acre)</th>
<th>12.5 to 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overseeding Rate (Kg/Acre)</td>
<td>10</td>
</tr>
</tbody>
</table>

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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 Hunter/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
• Suitable for biogas production

TOP CUT
(3-4 year cutting & grazing)

4.0kg Lofa Hybrid (T)
4.0kg Citeliac Hybrid Ryegrass (T)
2.0kg Nifty Intermediate Ryegrass NEW
2.0kg Boyne Intermediate Ryegrass
2.0kg Seagoe Intermediate Ryegrass (T) NEW

Heading date 21st May

Benefits
• Lofa advanced Hybrid included in mix for persistency of yield and quality
• Seagoe & Boyne are the highest yielding Ryegrasses 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
• Nifty is highly digestable with excellent full season growth
• Suitable for biogas production
# PIT FILLER & RED CLOVER
(2 year cutting)

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Variety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gemini</td>
<td>2.50kg</td>
<td>Italian Ryegrass (T)</td>
</tr>
<tr>
<td>Alamo</td>
<td>2.25kg</td>
<td>Italian Ryegrass</td>
</tr>
<tr>
<td>Hunter/Kigezi</td>
<td>2.50kg</td>
<td>Italian Ryegrass (T) NEW</td>
</tr>
<tr>
<td>Fox</td>
<td>2.25kg</td>
<td>Italian Ryegrass</td>
</tr>
<tr>
<td>Red Clover</td>
<td>2.50kg</td>
<td>Blend</td>
</tr>
</tbody>
</table>

**Heading date 18th May**

**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

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Variety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lofa</td>
<td>2.75kg</td>
<td>Advanced Hybrid (T)</td>
</tr>
<tr>
<td>Citeliac</td>
<td>2.75kg</td>
<td>Hybrid Ryegrass (T)</td>
</tr>
<tr>
<td>Nifty</td>
<td>2.00kg</td>
<td>Intermediate Ryegrass NEW</td>
</tr>
<tr>
<td>Boyne</td>
<td>2.00kg</td>
<td>Intermediate Ryegrass</td>
</tr>
<tr>
<td>Red Clover</td>
<td>2.50kg</td>
<td>Blend</td>
</tr>
</tbody>
</table>

**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

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.
MULTICUT
(THE BEST POSSIBLE Long Term Cutting)

3.00kg Aber®Wolf Intermediate Perennial Ryegrass
3.50kg Aber®Zeus Intermediate Perennial Ryegrass
3.50kg Aber®Gain Late Perennial Ryegrass (T)
3.00kg Calao Late Perennial Ryegrass (T)

Average heading date 29th May

Benefits
• Leafy long term cutting ley with consistently high D values
• Very persistent, lasting 4 years plus
• High energy silage or zero grazing cuts all season long
• Multicut will not go stemmy and lose forage quality mid to late season
• Aim to take first cut early May
• Excellent ground cover for improved production and prevents weed ingress
• Calao excellent yield, persistence and ground cover for a tetraploid

MultiCut extras over standard UK recommended grass
560kg Dry Matter in year one. 6,600 MJ of ME/ha in 1st, 2nd cuts
(Worth 1,245 litres of milk per year)

Red Clover Aber®Claret option available (2kg Aber®Claret & 11kg of grasses)
• AberClaret will remain productive for 5 years.
• Improving tolerances to stem nematode and sclerotinia
• Highest yielding red clover on the UK recommended list
Hi–D BRITISH BRED
(Long Term cutting & grazing)

2.0kg Aber®Zeus NEW 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®Zeus, highest total grazing, first cut yields and highest grazing D Value, a very dense and prolific variety

• Hi-D is made up exclusively of the very latest high-performance Aber High Sugar Grasses increasing profits per ha

• All varieties selected have higher D Value than 76.7%, which is the average of all recommended varieties improving dry matter intakes (see graph)

• Premium British Aber White Clovers increase protein levels and palatability

• High scores for crown rust and drechslera resistance

• Maximum milk, meat production and financial returns per ha

• Aber®Wolf has the highest spring growth scores

• Aber®Clyde exceptionally high full season growth and energy production

• Aber®Clyde Pasture Profit champion 2017 with highest overall ratings per ha

• Aber®Gain is the highest conservation yielding tetraploid variety at 116%

• Hi-D is unrivalled for persistency, producing a superbly dense sward all season long

• A tight heading date range helps the ley to delivery optimum performance under cutting or grazing

• Hi-D combines varieties with the highest digestibility available, this produces the highest energy yield (ME) for both grazing and conservation

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

Agricultural Grass Mixtures

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Hi-D (Ultimate in Grass Performance)

**Aber Advantage**

<table>
<thead>
<tr>
<th></th>
<th>Grazing</th>
<th>Cutting</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME yield of Aber® Hi-D</td>
<td>137,668 MJ/ha</td>
<td>184,744 MJ/ha</td>
</tr>
<tr>
<td>Average of comparable varieties</td>
<td>129,914 MJ/ha</td>
<td>178,147 MJ/ha</td>
</tr>
<tr>
<td>Extra ME yield of Aber® Hi-D</td>
<td>7,754 MJ/ha</td>
<td>6,597 MJ/ha</td>
</tr>
<tr>
<td><strong>Aber advantage Milk</strong></td>
<td>1,266 litres/ha</td>
<td>1,282 litres/ha</td>
</tr>
<tr>
<td><strong>Aber advantage Meat</strong></td>
<td>253 kg/ha</td>
<td>340 kg/ha</td>
</tr>
</tbody>
</table>
Aber® High Sugar Grass

Aber varieties now stand out as the top performers on the independently compiled Recommended Grass and Clover List (RGCL) for Great Britain and feature strongly in the newly launched Irish Pasture Profit Index (PPI).

• Innovation, research and technology, for future growth
• Top ranking ryegrasses on independent Recommended Lists (UK & Ireland)
• 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 grass and 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
HI - INTAKE
(Long Term pasture with Timothy)

2.0kg Aber®Zeus Intermediate Ryegrass NEW
2.0kg Aber®Avon/Toddington 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 20-21)

Benefits
- Improved grazing D value and ground cover for 2018
- 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)

<table>
<thead>
<tr>
<th>Varieties</th>
<th>Grazing Yield 100% = 10.58 t/ha</th>
<th>Grazing D Value</th>
<th>Ground Cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aber®Zeus</td>
<td>107</td>
<td>77.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Twymax</td>
<td>101</td>
<td>77.3</td>
<td>6.3</td>
</tr>
<tr>
<td>Aber®Avon</td>
<td>103</td>
<td>77</td>
<td>7.2</td>
</tr>
<tr>
<td>Foxtrot</td>
<td>101</td>
<td>76</td>
<td>6.7</td>
</tr>
<tr>
<td>Cancan</td>
<td>102</td>
<td>76</td>
<td>6.8</td>
</tr>
<tr>
<td>Control Av.</td>
<td>97</td>
<td>72.7</td>
<td>5</td>
</tr>
</tbody>
</table>

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
**MULTI-SPECIES**

(Long Term)

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.00 kg</td>
<td>Aber®Wolf Intermediate Ryegrass</td>
</tr>
<tr>
<td>3.40 kg</td>
<td>Aber®Star Intermediate Ryegrass</td>
</tr>
<tr>
<td>1.00 kg</td>
<td>Presto Timothy</td>
</tr>
<tr>
<td>1.00 kg</td>
<td>Tonic Plantain</td>
</tr>
<tr>
<td>0.60 kg</td>
<td>Puna II Perennial Chicory</td>
</tr>
<tr>
<td>1.50 kg</td>
<td>Aber®Pasture White Clover Blend</td>
</tr>
<tr>
<td>1.50 kg</td>
<td>Aber®Claret Red Clover</td>
</tr>
</tbody>
</table>

**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 palatable and persistent sward
- 1st cut will be taken followed by high quality aftermath grazing (no chicory)
- 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

**OPTIONAL HERB MIX**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Herb</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>Burnet</td>
</tr>
<tr>
<td>20%</td>
<td>Alsike Clover</td>
</tr>
<tr>
<td>15%</td>
<td>Sheeps Parsley</td>
</tr>
<tr>
<td>10%</td>
<td>Yarrow</td>
</tr>
<tr>
<td>25%</td>
<td>Birdsfoot Trefoil</td>
</tr>
</tbody>
</table>

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

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

---

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AGRICULTURAL GRASS MIXTURES

TRADITIONAL MEADOW
(Permanent Pasture)

<table>
<thead>
<tr>
<th>Seed Rate (Kg/Acre)</th>
<th>Green Farm Seeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.0kg Laura Meadow Fescue</td>
<td>Laura</td>
</tr>
<tr>
<td>3.0kg Promesse Timothy</td>
<td>Promesse</td>
</tr>
<tr>
<td>1.5kg Evora Smooth Stalked Meadow Grass</td>
<td>Evora</td>
</tr>
<tr>
<td>1.4kg Maxima Creeping Red Fescue</td>
<td>Maxima</td>
</tr>
<tr>
<td>1.0kg Crested Dogstail</td>
<td>Crested Dogstail</td>
</tr>
<tr>
<td>0.1kg Meadow Foxtail</td>
<td>Meadow Foxtail</td>
</tr>
</tbody>
</table>

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

HORSE & PONY Paddock
(Long Term multi purpose)

<table>
<thead>
<tr>
<th>Seed Rate (Kg/Acre)</th>
<th>Green Farm Seeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0kg Early Ryegrass</td>
<td>Early Ryegrass</td>
</tr>
<tr>
<td>2.25kg Intermediate Ryegrass</td>
<td>Intermediate Ryegrass</td>
</tr>
<tr>
<td>3.25kg Late Ryegrass</td>
<td>Late Ryegrass</td>
</tr>
<tr>
<td>3.0kg Amenity Perennial Ryegrass</td>
<td>Amenity Perennial Ryegrass</td>
</tr>
<tr>
<td>2.0kg Creeping Red Fescue</td>
<td>Creeping Red Fescue</td>
</tr>
<tr>
<td>1.5kg Timothy</td>
<td>Timothy</td>
</tr>
</tbody>
</table>

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

For further information please visit: www.greenfarmseeds.com
## PREMIER HAYLAGE
(2 year Hard Hay / Haylage Mixture)

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>Grass Type</th>
<th>Variety</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0kg</td>
<td>Italian Ryegrass</td>
<td>Limeta</td>
</tr>
<tr>
<td>4.0kg</td>
<td>Italian Ryegrass</td>
<td>Alamo</td>
</tr>
<tr>
<td>6.0kg</td>
<td>Hybrid Ryegrass</td>
<td>Ligunda</td>
</tr>
</tbody>
</table>

**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

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## GFS RENOVATION

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>Grass Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.00kg</td>
<td>Agricultural Ryegrass</td>
</tr>
<tr>
<td>4.50kg</td>
<td>Agricultural Ryegrass (T)</td>
</tr>
<tr>
<td>4.00kg</td>
<td>Agricultural Ryegrass</td>
</tr>
</tbody>
</table>

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

---

**Economically Priced**
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 severely 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
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
ABER® HIGH ENERGY GRASS FOR AD

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**

<table>
<thead>
<tr>
<th>Sowing Rate (Kg/Acre)</th>
<th>Variety</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4kg</td>
<td>Aber®Echo HSG</td>
<td>Hybrid Ryegrass (T)</td>
</tr>
<tr>
<td>5kg</td>
<td>Aber®Eve HSG</td>
<td>Hybrid Ryegrass (T)</td>
</tr>
<tr>
<td>5kg</td>
<td>Aber®Niche</td>
<td>Festulolium</td>
</tr>
</tbody>
</table>

**AD MEDIUM TERM 3-4 YEAR**

<table>
<thead>
<tr>
<th>Sowing Rate (Kg/Acre)</th>
<th>Variety</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>6kg</td>
<td>Aber®Echo HSG</td>
<td>Hybrid Ryegrass (T)</td>
</tr>
<tr>
<td>8kg</td>
<td>Aber®Magic HSG</td>
<td>Perennial Ryegrass</td>
</tr>
</tbody>
</table>

**AD LONG TERM 4 YEAR+**

<table>
<thead>
<tr>
<th>Sowing Rate (Kg/Acre)</th>
<th>Variety</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>5kg</td>
<td>Aber®Magic HSG</td>
<td>Perennial Ryegrass</td>
</tr>
<tr>
<td>4kg</td>
<td>Aber®Green HSG</td>
<td>Perennial Ryegrass</td>
</tr>
<tr>
<td>5kg</td>
<td>Aber®Bite HSG</td>
<td>Perennial Ryegrass (T)</td>
</tr>
</tbody>
</table>

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

**Overseeding Rate (Kg/Acre)**: 10

E: info@greenfarmseeds.com
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)

<table>
<thead>
<tr>
<th>SOIL P &amp; K INDEX</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>130</td>
<td>105</td>
<td>80</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>K</td>
<td>340</td>
<td>290</td>
<td>250</td>
<td>90</td>
<td>0</td>
</tr>
</tbody>
</table>

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.
**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

**Variety Choice**
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: Daisy, GalaxyMax and New Artemis

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>RED CLOVER</th>
<th>WHITE CLOVER / GRASS</th>
<th>LUCERNE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil type</td>
<td>All types</td>
<td>All types</td>
<td>Well drained</td>
</tr>
<tr>
<td>Ideal pH</td>
<td>5.8-7.5</td>
<td>5.8-7.0</td>
<td>6.2-8.5</td>
</tr>
<tr>
<td>Establishment rate</td>
<td>Fast</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Inoculation needed</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Drought tolerance</td>
<td>High</td>
<td>Medium</td>
<td>Very high</td>
</tr>
<tr>
<td>Persistence</td>
<td>Low</td>
<td>Very High</td>
<td>Medium</td>
</tr>
<tr>
<td>Regrowth rate</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Yield</td>
<td>10-15 tonnes DM/ha</td>
<td>4-10 tonnes DM/ha</td>
<td>10-15 tonnes DM/ha</td>
</tr>
<tr>
<td>Silage quality</td>
<td>ME 9.8-11 MJ/kg/DM CP 16-22% pH 4-4.5</td>
<td>ME 9.8-12 MJ/kg/DM CP 16-20% pH 3.5-5.5</td>
<td>ME 9.0-11 MJ/kg/DM CP 18-24% pH 4.3-4.4</td>
</tr>
</tbody>
</table>
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
18% Puna II Perennial Chicory
18% Tonic Plantain
27% Aber®Chianti Red Clover
18% Aber®Claret Red Clover
18% Aran Large White Clover

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)
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

<table>
<thead>
<tr>
<th>Sowing Rate (Kg/Acre)</th>
<th>2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixture Inclusion Rate (Kg/Acre)</td>
<td>1</td>
</tr>
</tbody>
</table>
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, sow grass seeds on the same day, then 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.

<table>
<thead>
<tr>
<th>Standard Mixtures</th>
<th>Arable silage mixtures offer an alternative or additional feed to grass or maize silage...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GFS BIP Mix</strong></td>
<td>60% Spring Peas 40% Spring Barley 75 Kg/Acre 40-50 Kg/Acre</td>
</tr>
<tr>
<td><strong>GFS PIB Mix</strong></td>
<td>60% Spring Barley 40% Spring Peas 75 Kg/Acre 40-50 Kg/Acre</td>
</tr>
<tr>
<td>Other species available:</td>
<td>Oats  Triticale  Vetch  Maple Peas</td>
</tr>
</tbody>
</table>

T: 01531 822833  F: 01531 822866
**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.

**Typical Barley and Pea Analysis – fermented**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh Yield</td>
<td>23-25 T/ha</td>
</tr>
<tr>
<td>Dry Matter</td>
<td>30-40%</td>
</tr>
<tr>
<td>ME</td>
<td>9-11 MJ/kg</td>
</tr>
<tr>
<td>Crude Protein</td>
<td>12-15%</td>
</tr>
<tr>
<td>pH</td>
<td>4.0-4.6</td>
</tr>
<tr>
<td>Starch</td>
<td>14-20%</td>
</tr>
<tr>
<td>D Value</td>
<td>70</td>
</tr>
</tbody>
</table>

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

**ORCHARD MIXTURE WITH RYEGRASS**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grass Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>Dwarf Perennial Ryegrass</td>
</tr>
<tr>
<td>20%</td>
<td>Chewings Fescue</td>
</tr>
<tr>
<td>40%</td>
<td>Strong Creeping Red Fescue</td>
</tr>
<tr>
<td>10%</td>
<td>Highland Browntop Bent</td>
</tr>
</tbody>
</table>

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

**ORCHARD MIXTURE WITHOUT RYEGRASS**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grass Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%</td>
<td>Chewings Fescue</td>
</tr>
<tr>
<td>40%</td>
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</tr>
<tr>
<td>10%</td>
<td>Highland Browntop Bent</td>
</tr>
</tbody>
</table>

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
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

SPORTS FIELD RENOVATION ECONOMY

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

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

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

All Sport seed packed in 20kgs

E: info@greenfarmseeds.com
GREENSCAPE
A hard wearing lawn with Ryegrass.

DESCRIPTION
Modern dwarf type Perennial Ryegrasses, producing 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
30% Dwarf Ryegrass  
30% Dwarf Ryegrass  
40% Strong Creeping Red Fescue

Sowing Rate (g/m²) | 35-50
Overseeding Rate (g/m²) | 15-25
Mowing Height down to (mm) | 13

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
22.5% Dwarf Ryegrass  
22.5% Dwarf Ryegrass  
15% Chewings Fescue  
25% Strong Creeping Red 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

GREENFINE
Quality lawn without Ryegrass.

DESCRIPTION
A quality fine textured mixture, reduces maintenance. Suitable for fine ornamental lawns.

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

SPECIES
50% Strong Creeping Red Fescue  
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) | 13
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**
10% Hard Fescue  
25% Slender Creeping Red Fescue  
30% Rough Stalk Meadow Grass  
30% Chewings Fescue  
5% Browntop Bent

**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**

<table>
<thead>
<tr>
<th>N</th>
<th>P</th>
<th>K</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>Phosphate</td>
<td>Potassium</td>
<td>Preseed</td>
</tr>
<tr>
<td>6</td>
<td>9</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>3 + 3.5 Fe</td>
<td>3 + 3.5 Fe</td>
</tr>
</tbody>
</table>

**2.4D + Mecoprop**

| 12% Fe | 5% MgO | Moss Killer |

Packed in 20kgs, apply 35-50g/m²

**AMENITY SEEDING RATES**

<table>
<thead>
<tr>
<th>g/m²</th>
<th>kg/hectare</th>
<th>kg/acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>150</td>
<td>60</td>
</tr>
<tr>
<td>25</td>
<td>250</td>
<td>100</td>
</tr>
<tr>
<td>35</td>
<td>350</td>
<td>140</td>
</tr>
<tr>
<td>50</td>
<td>500</td>
<td>200</td>
</tr>
<tr>
<td>75</td>
<td>750</td>
<td>300</td>
</tr>
</tbody>
</table>

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 Ltd
Green Farm, Newent
Gloucestershire GL18 1JU

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Green Farm Seeds Supports