

HORIZON SEEDS

Agricultural Seed Guide 2020



Tel: 01379 873377

Fax: 01379 873373

Email: info@horizonseeds.com

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Introduction

Welcome to our 2020 Agricultural Guide which we hope you find useful relevant and informative. Last year seems to have flown by and as always mother nature challenged the resilience of British farmers.

This year again brings a further reduction in seed treatments available and the effects post neonicotinoids will become apparent as the season evolves. Changes in seed treatments present greater challenges to farmers across the total range of forage species so good product selection and management have never been more important.

Every farm is of course different but we have solutions for all eventualities and are always more than happy to discuss what is the best option for your enterprise.

As we assemble the catalogue continued political uncertainty is still dominating the economy and our European relationship is still in a state of flux. What effect this has on farming is still to be determined but, as always an efficient, cost effective enterprise will stand the best possible chance of weathering any potential storms on the horizon.

We carry out comprehensive trials at various trialling sites and farms across the country and select our new varieties and mixes

based on that data, so be assured we have a thorough knowledge and confidence in any new material we list.

Take a look at our "New Introductions" page opposite to see the best new products on the market and see if we can help Improve your forage and ultimately reduce your costs.



Jim Juby, Horizon Brand Manager

TRADE ASSOCIATION MEMBERSHIP



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What's New for 2020

Triumph Herbal Ley (Page 9)

We have completely overhauled the herbal ley based on results from some independent trials that have been carried out over a number of years. We now have, in our opinion, the best possible combination and percentages of grasses, legumous herbs and beneficial herbs combined to produce a high yielding, high protein, mineral rich and also a soil enhancing ley.



Lucerne Artemis (Page 16)

Noted variety for persistence, excellent Winter hardiness and drought tolerance. Artemis boasts good verticillium and anthracnose resistance. Yields are extremely high both for first cuts and sequential cuts.

Kale Bombardier (Page 24)

High dry matter Autumn Winter kale with club root tolerance and high quality feed. Improved stem palatability and bred especially for UK conditions. Ideal for dairy, beef and sheep. Bombardier's palatability makes it an ideal variety to move on to from grass grazing.

Kale/Rape Unicorn (Page 26)

Rape Kale cross bred to produce a quality feed in a short period of time. Suited to Dairy, Beef and Lamb production and can be utilised in Summer, Autumn and Winter. Ready to graze in as little as 12 weeks from a May sowing and can be sown from May to the end of August. Unicorn can offer good re-growth after the first initial grazing as long as grazing management and weather conditions permit.

Maize Es Constance (Page 29)

High Yielding mid maturity variety which has done extremely well in National List Trials. Strong early vigour and suitable for growers with good maize land. High CWD enabling high maize inclusion in the ration. Drill 40,000 to 42,500 seeds per acre.



Maize Es Metronom (Page 30)

Metronom has very high digestibility and is also of a high quality. Metronom will achieve hefty yields and utilises the full maize growing period. Produces exceptional yields on good maize sites. Metronom also boasts a great package of disease resistances and will, undoubtedly prove itself a winner in future years. Drill 40,000 - 42,500 seeds per acre.

Biomin® Bio Stabil Plus (Page 42)

The Biomin® BioStabil Plus is a formulation of strategically selected Lactic Acid Bacteria for optimal forage preservation. These bacteria produce lactic acid and acetic acid in a balanced ratio for an improved fermentation process and longer aerobic stability of silage.

- Better Fermentation
- Longer Storage life
- Higher Energy Content
- Protein Preservation
- Higher Animal Productivity and Profit

Silostop SupaCova Pro (Page 44)

A new concept in silage clamp covers when combined with Silostop Orange, SupaCova Pro can:

- Reduce plastic use by 75%,
- Provide UV protection for up to 10 years
- Reduce labour requirement
- Be easy to handle and flexible
- Keep out birds and rodents

With it's flexible nature SupaCova Pro will mould to the clamp shape providing a robust yet flexible cover.



Triumph Grass Ley Selection Guide

Use our handy quick guide to select the ley most suited to your needs then check out DM and ME yields (opposite)
Full descriptions available and individual variety constituents on the relevant page.

Mixture	Page	Cutting Ley	Grazing Ley	Dual Purpose	Specific Use Ley	Optimum Production	Clover Content	Cutting Date*	kg/acre
CLAMP FILLER	6					2 Years	-	14 May	14
RED CLOVER 2yr	6					2 Years	Red	14 May	12
ORGANIC RED CLOVER 2yr	14					2 Years	Red	15 May	12
SUPER FOUR	6					4 Years	-	15 May	14
SUPER FOUR + CLOVER	6					4 Years	White	15 May	15
RED CLOVER 4yr	7					4 Years	Red	15 May	13
PERSISTANT CUT	7					6 Years	-	25 May	13
ITALIAN RYEGRASS BLEND	7					18 Months	-	25 May	12.5
WESTERWOLDS	7					1 Year	-	12 May	12.5
SPRINT GRASS	7					1 Year	-	12 May	12.5
PREMIER GRAZE	8					6 Years	White	n/a	13
SHEEP GRAZER PLUS	8					6 Years	White	n/a	13
HERBAL LEY	9					6 Years	Red & White	n/a	12
MOWGRAZE	10					4 Years	White	18 May	14
MULTIPURPOSE	10					4 Years	-	17 May	13
FOREMOST	10					6 Years	White	22 May	13.75
FOREMOST NO CLOVER	10					6 Years	-	22 May	13
ORGANIC FOREMOST	14					4 Years	White	23 May	13
BROAD HORIZON	11					6 Years	White	23 May	13.5
PROLIFIC	11					6 Years	Red & White	26 May	14
ORGANIC PROLIFIC	14					4 Years	Red & White	24 May	13.5
MAIZE UNDERSOWING	12					1 Year	-	n/a	8
ABUNDANCE	12					6 Years	Red & White	19 May	13
ORGANIC ABUNDANCE	14					4 Years	Red & White	21 May	13
HAYLAGE	13					4 Years	-	18 May	14
DROUGHTSTAR	13					4 Years	-	22 May	14
OVERSEEDING	13					3 Years	-	17 May	10
HORSE PADOCK	15					6 Years	-	n/a	13





As an independent seed merchant we can choose the very best varieties breeders have to offer. ALL varieties are on the Recommended List and ALL chosen to perform well in the individual ley. The table below will give you an overview of the potential for the given ley.

Mixture	Page	Cutting Ley	Grazing Ley	Dual Purpose Ley	Specific Use Ley	1st & 2nd Cut ME Mj/ha	1st Cut D Value	2nd Cut D Value	DM t/ha	1st & 2nd Cut Milk Value	1st & 2nd Cut Beef Value (kg)	1st & 2nd Cut Lamb Value (kg)
CLAMP FILLER	6					126558	71.7	68.3	19.5	£ 6,686	1246	2792
RED CLOVER 2yr	6					129438	70.2	66.7	18.3	£ 6,838	1275	2855
SUPER FOUR	6					123743	71.6	71.9	18.1	£ 6,537	1219	2730
RED CLOVER 4yr	7					137726	73.0	71.4	16.7	£ 7,276	1356	3038
PERSISTANT CUT	7					134033	71.0	72.6	17.5	£ 7,081	1320	2957
PREMIER GRAZE	8					128344	72.7	74.4	16.3	£ 6,780	1264	2831
SHEEP GRAZER PLUS	8					122279	71.0	73.3	16.0	£ 6,460	1204	2697
MOWGRAZE	10					127374	71.8	73.0	17.3	£ 6,729	1254	2810
MULTIPURPOSE	10					130168	70.3	72.2	17.6	£ 6,877	1282	2871
FOREMOST	10					130400	71.9	73.1	16.9	£ 6,889	1284	2876
FOREMOST NO CLOVER	10					134197	71.5	72.8	17.6	£ 7,090	1322	2960
BROAD HORIZON	11					127925	71.1	72.7	16.6	£ 6,758	1260	2822
PROLIFIC	11					124816	70.7	72.1	16.2	£ 6,594	1229	2753
MAIZE UNDERSOWING	12					79748	70.6	70.0	11.4	£ 4,213	785	1759
ABUNDANCE	12					127672	70.3	72.6	16.1	£ 6,745	1257	2816
HAYLAGE	13					127296	70.4	71.8	17.6	£ 6,725	1254	2808
DROUGHTSTAR	13					131732	69.9	70.3	18.0	£ 6,959	1297	2906
OVERSEEDING	13					79556	71.7	72.9	10.9	£ 4,203	784	1755

All figures are based on data from the latest Recommended Grass and Clover List for England and Wales and ME conversions gathered from AHDB data. (Milk 5.3Mj per litre, Beef 132Mj per 1.3kg & Lamb 6.8MJ per 150gm)

*Milk Value based on 28p per litre

Please note - We reserve the right to substitute a variety with a suitable alternative should it become unavailable. Any alteration to a mixture will be clearly shown on the bag label. Horizon Seeds standard terms and conditions apply.

Triumph Clamp Filler
2 YEARS OPTIMUM PRODUCTION
14KG/ACRE PACK



3.00kg	Messina	Italian Ryegrass (Tet)
2.00kg	Udine	Italian Ryegrass (Tet)
4.00kg	Belluna	Italian Ryegrass
2.00kg	Malprimo	Italian Ryegrass
3.00kg	Enduro	Hybrid Ryegrass (Tet)

Triumph Clamp Filler is our best selling short term cutting ley and offers:

- Two full years of massive ME yields.
- Close range of D value dates for precise planning of the first silage cut.
- Excellent Water Soluble Carbohydrate levels.
- Udine (tetraploid) is the highest yielding Italian Ryegrass (113% of controls) in the year of sowing with an excellent disease resistance package and good winter hardiness.



Triumph Cutting Leys

Triumph 2 Year Red Clover Ley

2 YEARS HIGH PROTEIN PRODUCTION
12KG/ACRE PACK

4.00kg	Messina	Italian Ryegrass (Tet)
2.50kg	Belluna	Italian Ryegrass
2.50kg	Malprimo	Italian Ryegrass
3.00kg	Merviot	Red Clover

Increase protein levels in your silage by using this ley:

- Ideal where summer drought can restrict herbage growth.
- Merviot red clover shows good resistance to sclerotinia.
- Can be rotationally grazed in tandem with cutting regime.
- Management may be required to avoid bloat, and ewes should not graze pre or post tugging.
- Suited to haymaking.



Triumph Super Four
4 YEARS OPTIMUM PRODUCTION
14KG/ACRE PACK

4.00kg	Amalgam	Hybrid Ryegrass (Tet)
4.00kg	Enduro	Hybrid Ryegrass (Tet)
3.00kg	Solid	Hybrid Ryegrass (Tet)
3.00kg	Hymer	Hybrid Ryegrass (Tet)

Triumph Super Four: a blend of unique characteristics

- Year 1 yields comparable to those of Italian Ryegrass leys and significantly greater over the next 3 years.
- Quality tetraploid varieties which produce a very palatable grass mixture.



Triumph Super Four Plus Clover

Available as above but, with the addition 1kg of Triumph Premier Blend White Clover*

White clover in grass leys

Having 30% white clover in your sward will fix the equivalent of 150kg nitrogen per hectare per year. White clovers increase the digestibility of the sward, give higher intakes and have a higher protein content compared to perennial ryegrass. This has the potential to increase animal growth rates by 20%.

* For a more in depth description of Triumph Premier Blend White Clover see page 15

Triumph 4 Year Plus Red Clover Ley

4 YEARS OPTIMUM PRODUCTION
12KG/ACRE PACK

3.00kg	AberGreen	Inter Perennial Ryegrass
2.00kg	AberClyde	Inter Perennial Ryegrass (Tet)
3.00kg	AberGain	Late Perennial Ryegrass (Tet)
1.00kg	AberBite	Late Perennial Ryegrass (Tet)
3.00kg	AberClaret	Red Clover

There is no better mixture for medium term grass & clover production :

- Ideal for high protein grass & clover production.
- High tetraploid grass content and red clover inclusion makes this sward very drought tolerant.
- AberClaret has displayed outstanding persistence in trials performing well into the 5th year.
- Lower nitrogen requirement providing up to 300kg per hectare and is an excellent fertility builder.

Can be rotationally grazed in tandem with cutting regime, but careful management may be required to avoid bloat, and ewes should not graze pre or post tupping as oestrogen levels in red clover can affect fertility.



Triumph Cutting Leys

Triumph Persistent Cut

6 YEARS OPTIMUM PRODUCTION
13KG /ACRE PACK



3.00kg	Boyne	Inter Perennial Ryegrass
2.00kg	Pensel	Inter Perennial Ryegrass (Tet)
2.00kg	Welldone	Late Perennial Ryegrass (Tet)
2.00kg	Aston King	Late Perennial Ryegrass
1.25kg	Romark	Late Perennial Ryegrass
1.50kg	Meiduno	Late Perennial Ryegrass (Tet)
1.25kg	Toddington	Late Perennial Ryegrass

Triumph Persistent Cut is the ultimate medium/long term choice for intensive cutting all season long:

- Spread of heading dates to facilitate repeated cutting and giving high quality silage over many years.
- Repeated quality re-growth throughout the season from selected very high yielding intermediates together with late Perennial Ryegrass varieties.
- High sugar content to improve fermentation and clamp energy.



Triumph Italian Ryegrass Blend

18 MONTH OPTIMUM PRODUCTION
25KG/2 ACRE PACK

12.5kg	Italian Ryegrass (Tet)
12.5kg	Italian Ryegrass (Dip)

- Fast growing and quick establishing.
- Ideal for undersowing.
- Autumn or Spring sow for high yields of quality Autumn, Winter and Spring grazing.
- High digestibility and high yields.

Triumph Westerwolds

1 YEAR OPTIMUM PRODUCTION
25KG/2ACRE PACK

Westerwold is an annual type of Italian Ryegrass and is the fastest growing grass. Westerwolds are ideal for use when high production is required within 3-6 months after sowing. Modern Westerwold varieties are bred to be more winter hardy than the original strains.

- Suitable for silage, hay production and zero grazing.
- Ideal catch crop after maize harvest for very early Spring growth.
- Also useful as a companion grass for slower establishing species.

Triumph Sprint Grass

1 YEAR OPTIMUM PRODUCTION
25KG/2ACRE PACK

12.5kg	Westerwolds
6.25kg	Italian Ryegrass (Tet)
6.25kg	Italian Ryegrass (Dip)

- Contains fast growing Westerwolds for quickest possible establishment.
- Ideal for undersowing crops such as Maize.
- Autumn or Spring sow for high yields of quality Autumn, Winter and Spring feed.
- High digestibility and high yields.

*** For a more in depth description of Triumph Premier Blend White Clover see page 15**

Triumph Sheep Grazer Plus

HIGH CLOVER CONTENT LEY

LONG TERM

13KG /ACRE PACK

2.00kg	Boyne	Inter Perennial Ryegrass
2.50kg	Moira	Inter Perennial Ryegrass
1.25kg	Fintona	Inter Perennial Ryegrass (Tet)
1.00kg	Novello	Late Perennial Ryegrass (Tet)
2.50kg	Meiduno	Late Perennial Ryegrass (Tet)
1.25kg	Oakpark	Late Perennial Ryegrass
0.50kg	Comer	Timothy
0.50kg	Comtal	Timothy
1.50kg	Triumph Prime*	White Clover

Long term grazing with early and late season production in mind:

- Persistent, long term grazing ley
- High clover content of diverse clover varieties which cover small and medium types.
- Prime Clover has excellent ground cover and yield scores (top rated A for both light and hard defoliation)
- Includes high yielding perennial ryegrass chosen for its seasonal distribution of grazing capability, as well as its high digestibility and excellent disease resistance.
- Contains varieties either with proven acceptability in animal intake variety trials, or those having very good aftermath digestibility.
- High Grazing D values for maximum conversion to meat.

* For a more in depth description of Triumph Prime Blend White Clover see page 15

For Organic grazing ley options see page 14



Triumph Grazing Leys



Triumph Premier Graze

LONG TERM

13KG /ACRE PACK

Triumph Premier Graze – our premier grazing ley



3.50kg	AberBite	Late Perennial Ryegrass (Tet)
3.00kg	AberAvon	Late Perennial Ryegrass
2.50kg	AberChoice	Late Perennial Ryegrass
3.00kg	AberGain	Late Perennial Ryegrass (Tet)
0.45kg	Aber Herald	Medium Leaf White Clover
0.55kg	Aber Dai	Medium Leaf White Clover

- Produces a persistent dense winter hardy sward, huge grass yields with capability of rapid re-growth.
- Varied seasonal growth pattern but close heading date spread of only 7 days for enhanced quality.
- Excellent mid season digestibility.
- Good spring growth and best attainable grazing yields in that critical July/August period with the added benefit of excellent crown rust resistance.
- Enables maximum grazing without poaching.

Triumph Premier Graze - No Clover

LONG TERM

13KG/ACRE PACK

3.50kg	AberBite	Late Perennial Ryegrass (Tet)
3.00kg	AberAvon	Late Perennial Ryegrass
3.00kg	AberChoice	Late Perennial Ryegrass
3.50kg	AberGain	Late Perennial Ryegrass (Tet)

Triumph Herbal Ley

LONG TERM
12KG /ACRE PACK



1.20kg	Matrix	Festulium Ryegrass
0.60kg	Motim	Timothy
1.80kg	Novello	Late Perennial Ryegrass
0.60kg	Elyria	Inter Perennial Ryegrass
0.60kg	Petrarca	Meadow Fescue
0.72kg	Merviot	Red Clover
0.60kg	Premier Blend	White Clover (Legume)
0.60kg	Ermo Alsyke	Alsyke Clover (Legume)
0.48kg	Birdsfoot Trefoil	Trefoil (Legume)
1.20kg	Sainfoin	Sanfoin (Legume)
1.32kg	Grasslands Choice	Chicory
1.32kg	Tuatara Plantain	Plantain
0.24kg	Yarrow	Herb
0.24kg	Sheeps Parsley	Herb
0.48kg	Burnet	Herb



Triumph Herbal Grazing

**Very versatile formulated highly palatable mineral rich ley
Contains 40% grasses 30% leguminous herbs and 30% beneficial herbs.**

- A rich source of protein and beneficial trace minerals for healthy animal production.
- Will survive and succeed in drought and waterlogged conditions where grass leys may suffer.
- Plantain provides valuable year round fodder.
- Plantain along with Chicory contributes to rapid animal growth rates.
- Anthelmintic properties.

Herbal options explained:

Red Clover Widely used in forage mixtures, as well as nitrogen fixing and feed quality. Red Clover flowers provide a great source of nectar for beneficial insects such as bees.

White Clover Low growing nitrogen fixing herb. Being a low growing herb makes White clover a good weed suppressant especially while the ley is establishing. Good forage qualities and protein source.

Alsike Clover Nitrogen fixing Winter hardy species with very palatable qualities. Alsike Clover has the ability to grow on more acid soil situations unlike many other clover species.

Birdsfoot Trefoil Used in Natural England's herbal ley options providing an important food source for many butterfly and moth species. Birdsfoot Trefoil provides a good quality non-bloating feed and has the added benefit of fixing nitrogen.

Sainfoin Non bloating legume with high tannin levels in the leaves which protect the protein from degradation in the rumen allowing for better absorption. Sainfoin also provides a good source of pollen and nectar for beneficial insects such as honeybees.

Chicory Very deep rooted species which allows it to survive long periods of drought once established. Palatable, mineral rich species best suited to grazing regimes. Bloat free forage. Ideal for keeping the soil aerated. Will be productive for 3-4 years.

Plantain Also commonly referred to as Ribwort, Plantain has high palatability and is high in nutrients and trace elements. Performs better than many other species on calcareous soils.

Burnet Perennial forage herb which increases diversity and lifts trace elements from deep within the soil profile. It has a high grazing quality and a long season.

Yarrow Small seeded forage herb good source of important minerals. Does require management as it can become invasive in some situations.

Sheep's Parsley Vitamin and mineral rich herb once established provides a sought after component for grazing livestock.



Triumph Mowgraze

4 YEARS OPTIMUM PRODUCTION
14KG/ACRE PACK

2.00kg	Kirial	Hybrid Ryegrass(Tet)
2.00kg	Aston Crusader	Hybrid Ryegrass (Tet)
2.75kg	Gosford	Inter Perennial Ryegrass
2.00kg	Seagoe	Inter Perennial Ryegrass (Tet)
1.50kg	Fintona	Inter Perennial Ryegrass (Tet)
3.00kg	Drumbo	Late Perennial Ryegrass
0.75kg	Triumph Premier*	White Clover

Triumph Mow Graze designed for flexibility is ideal for grazing or cutting as the need arises

- High quality, easy management are the key attributes of this mixture.
- Designed for early grazing and heavy silage cuts followed by good leafy aftermath grazing during late Summer and Autumn.
- The high tetraploid content ensures efficient silage fermentation and provides very palatable grazing with improved dry-matter intakes.
- Above average drought tolerance.



Dual Purpose Leys

Triumph Multipurpose

4 YEARS OPTIMUM PRODUCTION
13KG/ACRE PACK

2.00kg	Amalgam	Hybrid Ryegrass(Tet)
2.50kg	Boyne	Inter Perennial Ryegrass
2.50kg	Fintona	Inter Perennial Ryegrass(Tet)
1.85kg	Federer	Inter Perennial Ryegrass(Tet)
1.50kg	Oakpark	Late Perennial Ryegrass
1.65kg	Aston King	Late Perennial Ryegrass
1.00kg	Comer	Timothy

Triumph Multi Purpose fulfils a range of production options without compromising either yield or quality

- Fully flexible over a prolonged season early spring grazing plus heavy, high D value cuts and quality aftermath grazing from varieties that maintain D value well.
- A quality multi-use ley, excluding early heading perennial ryegrass, that will adapt and yield well to varied farmer requirements.
- Ideal option dual purpose ley for use where clover is not required



Triumph Foremost

6 YEARS OPTIMUM PRODUCTION
13.75KG/ACRE PACK

2.00kg	Pensel	Inter Perennial Ryegrass (Tet)
1.50kg	Boyne	Inter Perennial Ryegrass
1.75kg	Federer	Inter Perennial Ryegrass (Tet)
2.50kg	Oakpark	Late Perennial Ryegrass
2.25kg	Aston King	Late Perennial Ryegrass
1.50kg	Meiduno	Late Perennial Ryegrass (Tet)
1.50kg	Aspect	Late Perennial Ryegrass (Tet)
0.75kg	Triumph Premier *	Blend White Clover

A superb ley for heavy cutting yields and quality grazing.

- The perfect balance of high quality cultivars for the discerning farmer.
- Includes Pensel Perennial Ryegrass chosen for its impressive first cut potential and exceptional disease resistance package which includes a score of 9 against crown rust. Also exhibits a good seasonal distribution of grazing yields.
- All three diploids are high yielding dual purpose quality varieties high in WSC. Will provide good ground cover.
- Good Spring growth without early heading.
- Clover Blend includes highly rated medium and large leaved varieties which will compliment mixed management perfectly.

Triumph Foremost—No Clover

6 YEARS OPTIMUM PRODUCTION
13KG/ACRE PACK

As above minus Premier Clover Blend

*** For a more in depth description of Triumph Premier Blend White Clover see page 14**

For Organic ley options see page 15

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Triumph Broad Horizon

6 YEARS OPTIMUM PRODUCTION

13.50KG/ACRE PACK

Triumph Broad Horizon "A true blockbuster of a mixture"



3.50kg	AberGain	Late Perennial Ryegrass (Tet)
2.00kg	AberAvon	Late Perennial Ryegrass
2.00kg	AberSpey	Inter Perennial Ryegrass (Tet)
2.00kg	AberGreen	Inter Perennial Ryegrass
2.00kg	AberZeus	Inter Perennial Ryegrass
1.00kg	Presto	Timothy
0.55kg	AberHerald	Medium White Clover
0.25kg	AberDai	Medium White Clover
0.20kg	Aran	Large White Clover

This ley has been one of Horizon Seeds premier leys for many years. High in DM high in ME

- The best of varieties available including IBERS Aber High Sugar grasses ensuring forage of both high yield and quality.
- High yielding with high sugar content for cutting and grazing regimes.
- High herbage intakes are guaranteed with the inclusion of the proven very high quality late cultivars AberAvon and AberGain with their excellent Grazing D value scores.
- Will produce an abundance of top quality grazing from early Spring to late Autumn with excellent palatability and high digestibility.
- Has a close D value range allowing for planned and effective grassland management - whatever the system.

* For a more in depth description of Triumph Premier Blend White Clover see page 15

TRIUMPH

Dual Purpose Leys



Triumph Prolific

LONG TERM

14KG/ACRE PACK



2.25kg	Federer	Inter Perennial Ryegrass (Tet)
1.25kg	Boyne	Inter Perennial Ryegrass
2.00kg	Meiduno	Late Perennial Ryegrass (Tet)
2.00kg	Oakpark	Late Perennial Ryegrass
2.00kg	Aspect	Late Perennial Ryegrass (Tet)
1.25kg	Aston King	Late Perennial Ryegrass
1.00kg	Comer	Timothy
1.00kg	Comtal	Timothy
0.50kg	Merviot	Red Clover
0.25kg	Grasslands Demand	White Clover
0.50kg	Triumph Premier*	White Clover

Triumph Prolific is an excellent winter hardy ley and so remains our best selling mixture, popular throughout the whole of the UK.

- High quality grazing and high cutting yields.
- The high Timothy content enhances Winter hardiness, gives good mid-season production and palatability as well as providing valuable early Spring growth on colder sites.
- The perennial ryegrass varieties have been specifically chosen for their combined attributes of high yields, good sward density and palatability. Meiduno ensures very high 2nd cut silage yields with the late perennial content, providing superb quality later grazing.
- Triumph Prolific has been blended to provide one or even two heavy silage cut yields and quality grazing.
- Well suited to heavier more fertile soils.
- Clover balance compliments the sward perfectly.

For Organic ley options see page 14

HORIZON SEEDS

Tel: 01379 873377

Fax: 01379 873373

Email: info@horizonseeds.com

Triumph Abundance

6 YEARS OPTIMUM PRODUCTION
13KG/ACRE PACK

1.50kg	Solid	Hybrid Ryegrass (Tet)
1.50kg	Fintona	Inter Perennial Ryegrass (Tet)
1.00kg	Federer	Inter Perennial Ryegrass (Tet)
1.50kg	Moira	Inter Perennial Ryegrass
1.50kg	Aston King	Late Perennial Ryegrass
2.00kg	Meiduno	Late Perennial Ryegrass (Tet)
1.50kg	Sparta	Cocksfoot
0.50kg	Comer	Timothy
0.50kg	Comtal	Timothy
0.50kg	Merviot	Red Clover
1.00kg	Triumph Prime*	Blend White Clover

Triumph Abundance is a modern “Cockle Park” type mixture

- Containing a wide range of species for even production of very palatable forage throughout the season and is suitable for cutting or grazing.
- Sparta Cocksfoot is a drought tolerant variety and has very good cutting yields, good ground cover and very good Spring grazing yields. Its soft leaf qualities, good disease resistance and proven animal acceptance provides improved quality and intake benefits.
- Hybrid content gives a boost to yields in early years and gives some early production in late areas but Triumph Abundance is primarily based on later heading intermediate and late perennial ryegrass.
- High content of tetraploid varieties are included for their better resistance to drought and their high sugar content to alleviate the lower WSC content of the Cocksfoot.
- Triumph Prime Blend White Clover enhances the feed value of the sward, palatability and soil fertility.



Specific Use Leys



Maize Undersowing

1 YEARS OPTIMUM PRODUCTION
8KG/ACRE PACK

2 kg	Udine	Italian Ryegrass (Tet)
2 kg	Meribel	Italian Ryegrass (Dip)
2 kg	Fintona	Inter Perennial Ryegrass (Tet)
2 kg	Boyne	Inter Perennial Ryegrass (Dip)

Reduce soil erosion and improve soil structure while generating additional forage.

- Best window for seed application 7-10 days after last herbicide application when maize is at 4-10 leaf stage. Normally early June to early July depending on maize drilling date and speed of growth.
- Preferable to incorporate & press/drill rather than broadcasting. Broadcasting isn't always effective especially in dry conditions. Specialist drills with disc coulters and press are becoming more available.
- Ideally drill 3 rows of grass between 75cm maize rows.
- Do not attempt this if maize crop has problem weeds which may require later herbicide application.
- Undersowing ley with added vetch to boost nitrogen levels also a possibility.

OTHER OPTIONS AVAILABLE FOR UNDERSOWING MAIZE AVAILABLE ON REQUEST INCLUDING WITH VETCH FOR NITROGEN FIXING. PLEASE ENQUIRE.

* For a more in depth description of Triumph Prime Blend White Clover see page 15

Triumph Haylage

4 YEARS OPTIMUM PRODUCTION
14KG/ACRE PACK

2.00kg	Solid	Hybrid Ryegrass (Tet)
2.00kg	Enduro	Hybrid Ryegrass (Tet)
2.00kg	Pensel	Inter Perennial Ryegrass (Tet)
2.00kg	Boyne	Inter Perennial Ryegrass
3.00kg	Moira	Inter Perennial Ryegrass
2.00kg	Timing	Late Perennial Ryegrass
1.00kg	Comtal	Timothy

A high quality horse haylage mixture:

- Triumph Haylage is designed specifically to give up to 4 years of quality haylage production.
- The varieties have been carefully selected for their disease resistance to give a clean sward and disease and dust free haylage
- Triumph haylage ley can be grazed for ease of management.
- The inclusion of Comtal Timothy, a variety with very high yields in the 1st harvest year and over a 3 year mean, will enhance the “nose” or aroma, which is a must in any haylage mixture.



Specific Use Leys

Triumph Droughtstar

CONTAINS FESTULOLIUM
4 YEARS OPTIMUM PRODUCTION
14KG/ACRE PACK

5.00kg	Lofa	Festulolium Ryegrass (Tet)
2.00kg	Amalgam	Hybrid Ryegrass (Tet)
2.00kg	Boyne	Inter Perennial Ryegrass
2.00kg	Meiduno	Late Perennial Ryegrass (Tet)
1.00kg	Comtal	Timothy
2.00kg	Sparta	Cocksfoot

A new deep rooting mixture suitable for mainly cutting in drought prone areas for silage or haylage production:

- Contains Lofa Festulolium, a relatively new variety which is an Italian Ryegrass crossed with a tall fescue, but selection has been from ryegrass type plants giving it the performance of an improved hybrid.
- Lofa is extremely drought tolerant as is Sparta Cocksfoot, so can provide a solution to extreme conditions.
- The mixture will provide early spring growth and maintain high yields.
- Phosphate and potash levels need to be maintained to ensure good rooting and general plant health.
- Sward can be grazed, and management of sward to keep the cocksfoot from going too ‘stemmy’ is recommended.

Triumph Overseeding

3 YEARS OPTIMUM PRODUCTION
10.00KG/ACRE PACK

2.00kg	Kirial	Hybrid Ryegrass (Tet)
2.00kg	Novial	Hybrid Ryegrass (Tet)
3.00kg	Seagoe	Late Perennial Ryegrass (Tet)
3.00kg	Youpi	Late Perennial Ryegrass (Tet)

Specific blend of hybrid and perennial tetraploids to give you the best chance of rejuvenating a tired or damaged ley and extending its productive life for up to three years.

- Large seeded tetraploid varieties with vigour are quick to establish.
- Will give lasting improvement in both silage yields and grazing performance.
- Good drought tolerance and winter hardiness.
- Chosen tetraploid cultivars will give an excellent conservation performance together with improved forage intake.



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Fax: 01379 873373

Email: info@horizonseeds.com

Organic 2 Year Red Clover

2 YEARS OPTIMUM PRODUCTION
12KG/ACRE PACK
50% Organic inclusion

3.00kg	Udine	Italian Ryegrass (Tet)	
3.00kg	Dasas	Italian Ryegrass	ORGANIC
3.00kg	Solid	Hybrid Ryegrass (Tet)	ORGANIC
3.00kg	SW Ares	Red Clover	

- A two year intensive silage and grazing ley.
- High protein from the red clover.
- Excellent aftermath grazing or quick re-growth from the Italian and Hybrid Ryegrass content.

Organic Foremost

13KG/ACRE PACK
4 YEARS OPTIMUM PRODUCTION
50% Organic inclusion

2.40kg	Elyira	Inter Perennial Ryegrass	
4.20kg	Magician	Inter Perennial Ryegrass (Tet)	ORGANIC
2.10kg	Premium	Inter Perennial Ryegrass	
2.80kg	Foxtrot	Late Perennial Ryegrass	ORGANIC
0.80kg	Merviot	Red Clover	
0.75kg	Grasslands Bounty	White Clover	
0.75kg	Alice	White Clover	

A clover rich mixture for 4 years optimum production. This ley has more than twice the clover content of a comparable conventional ley.

Organic Straight Red clover

4.6KG/ACRE PACK
50% Organic inclusion

Red clover for fertility building. Natural atmospheric nitrogen is fixed through the root nodules. A good start for following cereal crops.

2.30kg	Merviot	Red Clover	ORGANIC
2.30kg	SW Aries	Red Clover	



Organic seed

Organic Prolific

13.5KG/ACRE PACK
4 YEARS OPTIMUM PRODUCTION
50% Organic inclusion

1.60kg	Premium	Inter Perennial Ryegrass	ORGANIC
2.80kg	Foxtrot	Late Perennial Ryegrass	ORGANIC
3.45kg	Magician	Inter Perennial Ryegrass (Tet)	ORGANIC
1.60kg	Meiduno	Late Perennial Ryegrass (Tet)	
2.05kg	Comtal	Timothy	
0.50kg	Merviot	Red Clover	
0.75kg	Grasslands Bounty	White Clover	
0.75kg	Alice	White Clover	

A clover rich Prolific type mixture for long term cutting and grazing.



Organic Abundance

13KG/ACRE PACK
4 YEARS OPTIMUM PRODUCTION
50% Organic inclusion

1.75kg	Solid	Hybrid Ryegrass (Tet)	ORGANIC
2.75kg	Premium	Inter Perennial Ryegrass	ORGANIC
2.00kg	Foxtrot	Late Perennial Ryegrass	ORGANIC
2.00kg	Pensel	Inter Perennial Ryegrass (Tet)	
1.00kg	Comtal	Timothy	
1.50kg	Amba	Cocksfoot	
0.50kg	Merviot	Red Clover	
0.75kg	Grasslands Bounty	White Clover	
0.75kg	Alice	White Clover	

An organic version of a modern "Cockle Park Mixture" with a high clover content.



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Fax: 01379 873373

Email: info@horizonseeds.com

Triumph Horse Paddock

LONG TERM 6 YEARS PLUS
13KG/ACRE PACK



2.00kg	Elyria	Inter Perennial Ryegrass
2.00kg	Timing	Late Perennial Ryegrass
2.00kg	Drumbo	Late Perennial Ryegrass
3.00kg	Romark	Late Perennial Ryegrass
1.50kg	Comer	Timothy
2.00kg	Corial	Creeping Red Fescue
0.50kg	Geronimo	Smooth Stalked Meadow Grass

A high yielding horse grazing mixture

- Triumph Horse Paddock is based on leafy varieties with high grazing yields and very good ground cover. This provides a durable “bottom” and is essential for a good horse paddock.
- A quality Horse Paddock mixture with no “fillers” as is often the case with competitors comparative mixtures.
- The mixture will provide high early Summer growth as well as late Summer grazing and Autumn yields, ensuring a high intake of palatable grass throughout the year.
- Ideal for hay production if required with plenty of fibrous and low sugar species.
- The Creeping Red Fescue and Smooth Stalked Meadow Grass content contributes to a dense sward and their creeping habit gives rapid recovery from any turf damage.



Equestrian Leys

Triumph Horse Paddock Herbs

Mixture Information

0.35kg	Chicory	Herb
0.25kg	Burnet	Herb
0.10kg	Ribgrass (Plantain)	Herb
0.30kg	Sheep's Parsley	Herb

Available in 1kg packs
Sow at 500g/Acre

Specially developed for horses and ponies, Triumph Horse Paddock Herbs includes deep rooting and nutritious species.

- Our mixed herbs can be added to our Triumph Horse Paddock Mixture (500gm per acre).
- It is also possible to sow the Herb Mixture in strips within the field which may often provide better establishment.
- Provides a good source of minerals and trace elements.



White Clover Blends

Triumph Premier Blend

Ideal choice for Cutting Leys

This blend of large and medium leaved varieties is ideal for grassland systems where the principal need is for a clover that complements the requirements of conservation management. It is also the ideal choice for those situations where the sward may be grazed as well as cut. Mixture made up from a blend of some or all of below :

Grasslands Bounty

Violin

Merwi

Crusader

Barblanca

Alice

AberHerald

AberDai

Aran

Triumph Prime Blend

Ideal choice for grazing Leys

This White Clover mixture is aimed at situations where hard defoliation is likely, for example, under regular sheep grazing. The mixture therefore contains a higher percentage of small leaved varieties. Mixture made up from a blend of some or all of below :

Crusader

Grasslands Bounty

Grasslands Demand

Saracen

Violin

AberHerald

AberDai



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LUCERNE

- Lucerne's extensive root system enables the crop to produce good yields even under dry conditions.
- Lucerne remains productive for 3 to 4 years after establishment.
- With a lower cell wall content than grass Lucerne is highly digestible.
- High in protein and mineral contents.
- It is particularly suitable as a complementary feed when fed alongside maize silage.

SITE AND SOIL SELECTION

Lucerne can be grown on a wide variety of sites and soil types. However Lucerne benefits from a fine and firm seedbed. Lucerne will not tolerate a waterlogged soil and this is commonly the cause of die out over winter so avoid heavy sites if possible. Well draining heavier soils however can provide very successful sites where good seedbeds can be established and compaction is avoided.

SOWING DATE

Lucerne can be sown from April right through the Spring and Summer. Sowings in the late summer will result in heavier crops in the following spring. However, the later sowings carry a greater risk of establishment failure due to the onset of cooler growing conditions in the Autumn. Failure to enter the Winter with strong plants is likely to result in excess winterkill. For this reason crops in the Midlands and further North are better sown in the spring. Crops in the Southern half of England however can be established with great benefit in the Summer. The latest safe sowing date should be considered to be 1st September. Remember sufficient soil moisture is essential for generating successful establishment and this can be a problem with Summer sowings.

pH

Lucerne is one of the few crops which will thrive on a soil with a high pH. Adequate lime levels are essential for a successful crop and liming to pH 7 is advised. Lucerne will not tolerate acidity.



Asmara

High yielding and high protein variety. Asmara is also noted for its high resistance to nematodes and drought tolerance. High yielding palatable crops are standard for this variety.



Artemis

Noted variety for persistence, excellent winter hardiness and drought tolerance. Artemis boasts good verticillium and anthracnose resistance. Yields are extremely high both for first cuts and sequential cuts.

Daisy

Daisy is a Flemish dormant type with medium thick stems. Daisy has a medium early Spring growth, early flowering and a very vigorous growth in Summer and Autumn.

Galaxie

A reliable variety that is high yielding and has a very good disease resistance.

Marshall

A reliable variety that has been grown successfully in the UK for a number of years. It's high DM yields, persistency and good drought tolerance makes the variety ideally suited to UK conditions.

Tango

Very high yielding semi-dormant variety. Can be used for hay, haylage or silage. High resistance to pests and diseases. Performs well in the UK climate.

Timbale

Excellent nutritional value, Timbale is thin stemmed with good leaf retention making it much better than many other varieties when baling. Good disease resistance and high yielding, high protein crops.

GalaxieMax (Mixture)

High performance varieties giving high yields with excellent protein levels and good disease resistance

Hunter River (Organic)

Hunter River, requires alkaline to neutral soils, well drained and high fertility, Spring, Summer growing. Sow May to Mid August.



ARABLE SILAGE MIXES

Arable silage offers a cost-effective, high quality, alternative or additional feed to grass or maize silage. Cereals in particular are versatile as they can be grown anywhere in the UK under a wide range of conditions and will produce consistently high yields of dry matter, even in dry seasons and cold weather. Arable silage mixtures provide a useful source of home produced protein.

Because whole crop cereals are in the ground for a short time (12-15 weeks), their early harvest allows earlier reseeded or drilling of other Autumn combinable crops.

They also provide the opportunity to be used as a cover crop for establishing an under-sown grass crop; when using this option the cover crop seed rate should be reduced. The mixture should be drilled as normal and the grass broadcast immediately afterwards, followed by a light Cambridge roll.

Harvesting should ideally take place when the pods on the peas are about to fill and flowering remains to the top of the plant.

Adding Peas to your wholecrop silage can increase protein by 40 to 60%. Yields can often be 23 to 25 tonnes per hectare of fresh crop of high protein forage suitable for dairy cow or beef cattle finishing systems.

Typical wholecrop analysis—fermented:

Dry matter	30 to 40%
ME	9 to 11MJ/kg
Crude Protein	11 to 18%
pH	4.0 to 4.6



BIP Mix

60% Spring Peas

40% Spring Barley

Sowing rate: 85kg per acre

50-60kg per acre if undersown with grass

Excellent protein rich wholecrop with the added benefit of residual nitrogen fixed by the peas for the following crop. Ready in 12 to 14 weeks. If undersowing drill cereals in normal way then broadcast grass on top and light Cambridge roll.

PIB Mix

60% Spring Barley

40% Spring Peas

Sowing rate: 75kg per acre

50kg per acre if undersown with grass

A Barley rich mixture proving very popular.

POB Mix

40% Spring Barley

40% Spring Peas

20% Spring Oats

Sowing rate: 75kg per acre

50kg per acre if undersown with grass

A traditional wholecrop mixture with Oats included



ORGANIC mixtures are also available

Can't see the Silage Mixture you are looking for?

Please contact us and we be only to pleased to help.

We recommend the use of a silage additive when clamping arable silage see pages 40 and 42 for options.

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Tel: 01379 873377

Fax: 01379 873373

Email: info@horizonseeds.com

FODDER CROPS GUIDE

What Can I Expect from My Forage Crop

With uncertain markets and changing weather patterns a range of forage crops is the safest way to ensure that there is a continuous supply of low cost feed to your farm animals. Recent drought periods has shown the effect in feed costs where no alternatives to grass are available on farm.

Why Grow your own Fodder?

- Economical to grow
- Fully traceable feed
- Reduced reliance on buying in feed
- Ideal break crops
- Crop flexibility
- Ideal components of a mixed forage diet

If you do not see the variety you are looking for this does not mean we do not supply it but rather it is impossible to put everything in a catalogue and still be able to carry it around. If you would like variety information sheets please just ask.

Species	Avg DM Yield	Avg Fresh Yield	Dry Matter	Crude Protein	D Value (Digestibility)	Metabolisable Energy
	tonnes/ha	tonnes/ha				MJ/kg DM
Chicory	6 to 9		12-15%	25%	70-80D	
Fodder Beet	13 to 15	80 to 90	12-19%	12-13%	78D	12.5-13.5
Stubble Turnip	3.5 to 4	38 to 40	8-9%	17-18%	68-70D	11
Kale	8 to 10	60 to 65	14-16%	14-16%	68D	10-11
Swede	7 to 10	70 to 80	9-13%	10-11%	82D	12.8-13.1
Forage Rape	3.5	24 to 35	12-14%	19-20%	65D	10-11
Forage Rye	5 to 6	20 to 30	25%	11-12%	67D	10

When To Grow and Utilise Forage

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Fodder Beet														
Stubble Turnip														
Swede														
Maincrop Turnip														
Kale														
Forage Rape														
Catch Crop Mixes														
Arable Silage														
Forage Rye														
Italian Ryegrass														



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FODDER BEET

Variety	Colour	Rhizomania Resistant	Graze In Situ	Sheep Suitable	AD	DM	Lifter
Blizzard	White				◀	High	Sugar Beet
Brick	White		◀		◀	High	Both
Cagnotte	Yellow	◀		◀		High	Both
Fieldherr	Orange		◀	◀		Med/Low	Leaf
Geronimo	Orange	◀	◀	◀		Medium	Both
Jamon	Orange		◀	◀		Med//High	Both
Magnum	White		◀	◀		High	Both
Merville	Red		◀	◀		Medium	Both
Nestor	White		◀		◀	High	Both
Robbos	Yellow		◀	◀		High	Both
Splendide	Yellow		◀	◀		Med/High	Both
Tarine	Pink			◀		High	Both



Robbos

A relatively new variety with very high dry matter yields. Performed very well in trials. Very clean smooth yellow roots suited to dairy and beef production. Well suited to grazing in situ.

Blizzard

A white skinned variety which can be harvested later than many other varieties. Ideal for harvesting with sugar beet machinery, high dry matter content allows growers extra harvesting flexibility. It will produce a very palatable feed, best fed to dairy or beef animals because of the high dry matter content. Also suited for AD usage.

Brick

A high yielding, high quality variety with a high dry matter. Being a true fodder beet, resistant to Rhizomania, Brick produces very clean roots when lifted producing high dry matter yields with maximum feed potential.



Why grow fodder beet?

- Huge palatable yields
- Ideal replacement for cereals
- High energy feed
- Clamp and store overwinter
- Improved milk yields
- Palatable & nutritious
- Can be grazed in situ for overwintering systems

Sowing information

Sowing dates: Late March – End April
Sowing rate: Precision drill only 120,000 seeds/ha 50,000 seeds/acre

Seed sold in one acre packs (50,000 seed units)
 The figures above relate to roots only. Tops may also be fed after wilting and will add a further 3-4 tonnes dry matter.

Soil Type

The crop can thrive on a wide range of soils, a light to medium, free draining soil with pH 7 is the ideal.

FODDER BEET



Cagnotte

Yellow skinned high dry matter variety with a good resistance to Rhizomania. Good fresh beet yields. Good grazing in situ potential due to high above ground percentage. High dry matter makes Cagnotte less suited to sheep but is highly palatable for beef and dairy.

Feldherr

Feldherr has the ability to produce high fresh yields from its orange roots which grow out of the ground. Feldherr is comparable with traditional mangolds which makes it suitable as a feed for young livestock due to its low dry matter. Feldherr allows growers to achieve a highly productive crop from monogerm seed.



Geronimo

Large top variety that is suited to both grazing and lifting. Excellent bolting resistance as well as mildew, ramularia and rhizomania resistance. Very consistent good performance in UK trials.

Jamon

Orange rooted, consistent performer with medium dry matter yields. Good disease and bolting resistance. One third of Jamon's root is above ground and there is a large amount of top allowing for easy lifting of this variety.

Magnum

White rooted high dry matter variety consistent and reliable producing high yields of even sized roots boasting a good resistance to rust.



Merveille

Red rooted variety with medium dry matter. Strong early vigour allows for good establishment and strong weed suppression. Good very palatable fresh beet yields.

Nestor

High Dry Matter of approx. 21% produces well rooted white beet which are clean and resistant to both rust and bolting. Cost effective beet for AD use.

Robbos

A relatively new variety with very high dry matter yields. Performed very well in trials. Very clean smooth yellow roots suited to dairy and beef production. Well suited to grazing in situ.

Splendide

Excellent all round variety with a high root yield and fresh beet yields. Splendide has a high root to leaf ratio.

Tarine

A relatively new variety bred for high dry matter yields, combined with a flexible harvesting period. Tarine is a pink rooted variety and has shown in UK trials to be suited for livestock farmers looking to increase their forage production.



ENERGY BEET

ENERGY BEET

Energy Beet provide a number of advantages for AD usage such as Higher energy levels than other crops, stable yields across seasons, rotational advantages and high dry matter yields. The efficient and rapid fermentation characteristics of beet facilitates rapid AD plant re-start.

Spring sown energy beet allow time to manage grass weeds and also to gain from the advantages of using a catch crop. Energy beets roots are deep rooted and can improve the soil structure benefiting following crops.

A long harvest window can reduce pressure on hectic Autumn workloads allowing growers more flexibility than other AD crops.

Barents

High dry matter yields of high quality feedstock for energy production. Clean, well-shaped, low-tare roots for easier harvesting. High quality plants with large tops. Tried and tested successfully in the UK. Specifically selected for the UK "Energy Crop" sector, Barents has the ideal characteristics for energy production. Good storage characteristics. Rhizomania resistant.

Enermax

High yielding with a low dirt tare. Enermax has a clean, white, smooth-skinned root and is shallow rooting, resulting in a cleaner end product particularly important for the biofuel market. Enermax has the additional benefit of being Rhizomania resistant and so is suitable for growing in the east of the country where sugar-beet is a widely grown crop.

Gahan

Low tare, low soil adhesion and resistant to Rhizomania. Consistently high dry matter yields of high quality feedstock, ideal for biogas production. Exceptionally clean well-shaped, low-tare roots for easier harvesting. High quality seed that delivers excellent establishment.



Zemis

Bred in the UK for UK conditions. Zemis has **very high dry matter content** with **high dry matter yields** for higher gas output ratio. Good bolting resistance, conical root shape for cleaner beet and good resistance to standard strains of Rhizomania. High dry matter enables better storage capacity. Seed is pelleted and treated.

Zemis Energy Beet Trials	Clean Fresh Yield t/ha	Dry Matter %	Dry Matter Yield t/ha	Dry Matter Yield % of Trial mean
Hampshire 2016	111.0	21.9	24.4	130
Shropshire 2017	84.3	24.3	20.4	107
Hampshire 2017	97.6	25.4	24.8	101
Hampshire 2018	92.8	24.7	22.9	107
Shropshire 2018	94.0	21.8	18.5	110
Trials Average	95.94	23.6	22.2	111

STUBBLE & LEAF TURNIPS

Variety	Type	DM	Season of Use
Barkant	Tankard	High	Winter
Delilah	Tankard	High	Autumn
Dynamo*	Round	Medium	Autumn
Frisia	Tankard	High	Autumn
Rondo	Round	Medium	Aut/Winter
Samson	Tankard	High	Autumn
Vollenda	Round	high	Winter

Why grow stubble turnip?

- Huge palatable yields
- Ideal replacement for cereals
- High energy feed
- Clamp and store overwinter
- Improved milk yields
- Palatable & nutritious
- graze in situ for out-wintering systems

Sowing information

Sowing dates: (1st) May – June
(2nd) July - August

Sowing rate: **Direct Drill** 5kg/ha (2kg/acre)
Broadcast 8kg/ha (3kg/acre)

As most crops are grazed in situ a free draining light loam or brash with a pH of 6.5 is ideal

Barkant

Barkant produces large palatable roots suitable for both cattle and sheep. Good resistance to bolting and highly digestible variety. Very hardy variety suited to late grazing.

Delilah

Extremely large rooted variety with good resistance to mildew. Consistent trial results suggest this is a good safe choice. Very high dry matter yields coupled with high fresh yields.



Dynamo ((ORGANIC)

Dynamo is a consistent well known variety suited to Organic regimes. Consistent performance, high yielding with good resistance to a range of diseases make this a sound choice.

Frisia

A Mid-season Stubble Turnip with purple skin, High proportion of the bulb above the ground allowing for good in situ grazing. Excellent dry matter yield. Exceptional Winter hardiness providing grazing throughout Autumn and Winter periods. Above average resistance to both Club Root and Mildew.

Rondo

Green skinned variety for both sheep and cattle very good Winter hardiness and excellent leafy growth habit. Can be utilised from September through to February. Rondo's strong root anchorage ensures reduced wastage in the field.

Samson

Consistently reliable Autumn variety which is very palatable with high dry matter. A popular choice with many of our customers suited to both cattle and sheep grazing.



Vollenda

Large leaf highly digestible variety with early vigour for fast establishment. Fast growing and good bolting resistance.

Variety	Type	Season of Use	Sheep	Zero Graze
Avalon	Leaf	Summer	◀	◀
Typhon	Leaf	Summer	◀	◀
Skyfall	Leaf	Summer/Autumn	◀	◀

Avalon

A fast growing, leafy grazing turnip providing a rapid source of palatable, easy to digest fodder for sheep and cattle. Multi crowned with good regrowth potential. Sow 4-6 weeks before feed is required.

Typhon

Typhon is a vigorous Hybrid best suited to Spring sowing. This variety provides a valuable feed in the Summer months when grass regrowth traditionally declines. Avoid sowing too early as this could result in bolting.

Skyfall

A Leaf Turnip Brassica that is a major step forward in hybrid brassica breeding. Skyfall provides a leafy growth and food supply in the Summer when grass regrowth is at its lowest and a potential for good regrowth or Autumn Winter feed. Deeper rooted to withstand drought.



SWEDE



Variety	Graze in	Lift &	Culinary	Pre	Post	Club Root
Airlie	◀	◀	◀	◀		
Gowrie	◀	◀		◀	◀	◀
Invitation	◀	◀		◀	◀	◀
Kenmore	◀	◀		◀		
Lomond	◀	◀			◀	◀
Magres		◀	◀		◀	
Marian	◀	◀	◀	◀		◀
Ruta Otofte	◀	◀	◀	◀		
Triumph	◀	◀		◀		◀

Airlie

Airlie is a low to medium dry matter variety with a very high fresh yield and good disease resistance. It is a dual purpose variety suitable for fodder and culinary use with purple skin and creamy white flesh. Airlie is an early to intermediate use variety.

Gowrie

Gowrie is a variety bred in Scotland and can be utilised pre or post Christmas. It produces high dry matter yields and Gowrie exhibits good resistance to both clubroot and powdery mildew.

Invitation

Invitation is a very uniform, clubroot resistant variety, ideal for utilisation after Christmas. It also has excellent resistance to powdery mildew and will produce large leaves for extra grazing potential. Invitation is Winter hardy and is suitable for sheep or cattle.

Kenmore

Kenmore is an early maturing variety with medium dry matter, best suited as stock feed not culinary use. It has good Winter hardiness which means it has a very wide utilisation window. Kenmore has bronze skin with white flesh.

Lomond

High fresh and dry matter yields make this variety ideal for finishing lambs post Christmas. Lomond has both powdery mildew and clubroot resistance and trials show it suffers less from rots and splits in its root.

Marian

Marian is a medium dry matter variety with moderate resistance to club root. It is a dual purpose variety suitable for fodder and culinary use with yellow coloured flesh and purple skin.

Ruta Otofte

Ruta Otofte is a medium dry matter variety with good mildew resistance. It is a dual purpose variety suitable for fodder and culinary use with purple skin and cream coloured flesh. Ruta Otofte is a popular choice for sheep farmers.

Triumph

A new generation high yielding swede ideal for out-wintering sheep. Yellow fleshed mid maturity variety with a dry matter of 21%, good dry rot and mildew tolerance. Triumph retains good levels of foliage throughout the Winter.

Why grow swedes?

- Excellent high energy winter feed
- Low production costs
- Finishing lambs or Winter maintenance
- High dry matter yields
- Cost effective

Sowing information

Sowing dates: April – June
 Sowing rate: **Precision drill** 350-850gm/ha (150-350gm/acre) Grade H seed
Direct Drill 3kg/ha (1kg/acre) Natural seed
Broadcast 5kg/ha (2kg/acre) Natural seed

Yield and Feed Quality

Average DM yield: 7-10 tonnes/ha
 Average fresh: 70-80 tonnes/ha
 Dry matter: 9-13%
 Crude protein: 10-11%
 "D" Value: 82D (Digestibility)
 Metabolisable Energy: 12.8-13.1 MJ/kg DM

Growing Cost (Approximate)

£403 per hectare
 Fresh weight: £5 per tonne
 Dry Matter: £62 per tonne

Soil type

The crop can be grown on a wide range of soils including sandy loams, silts, peat or clay loams. pH of around 6.5 is the target.



KALE



Variety	Type	Club Root Res	Zero Graze/ In Situ
Bombardier	Kale	◀	Both
Caledonian	Kale	◀	Both
Goldeneye	Kale	◀	Both
Grampian	Kale		Both
Gruner Angelita	Kale	◀	Both
Keeper	Kale		Both
Maris Kestrel	Kale		Both
Sovereign	Kale	◀	Both
Thousand Head	Kale		Both

Why grow kale?

- **Low cost option for finishing lambs**
- **Buffer feed for cows during dry Summers**
- **Flexible utilisation period**
- **Excellent crude protein**
- **High yields and economical to grow**
- **Out-Wintering systems**

Sowing information

Sowing dates: April – early July
 Sowing rate: **Precision drill** 2kg/ha (750gm/acre)
 Grade J seed
Direct Drill 3-5kg/ha (1-2kg/acre)
 Natural seed
Broadcast 8kg/ha (3kg/acre)
 Natural seed

Growing Cost (Approximate)

£496 per hectare
 Fresh Weight £9 per tonne
 Dry Matter £67 per tonne

Soil Type

Kale grows best on a medium loam soil with a pH of around 6.5.

Bombardier

High dry matter Autumn Winter kale with club root tolerance and high quality feed value. Improved stem palatability and bred especially for UK conditions. Ideal for dairy, beef and sheep. Bombardier's palatability makes it an ideal variety to move on to from grass grazing.

Caledonian

Caledonian is a very high yielding kale. It is clubroot tolerant, which now enables growers to continually sow kale on clubroot infected sites. Caledonian's huge yield makes it ideal for utilisation by dairy and beef cattle.



Goldeneye

Goldeneye is a giant type kale bred for the game cover market. Selected for the optimum combination of height and leaf production. It has a leafy top, strong stem, good Winter hardiness and good field tolerance of disease, making it the ideal choice for game cover usage. Club root tolerance.

Grampian

Bred in Scotland, Grampian produces excellent autumn or Winter feed for both sheep and dairy cows. Grampian exhibits very high dry matter yields, combined with some clubroot resistance and can be used in out-wintering systems.

Grüner Angelita

A very high yielding variety with good Winter hardiness and excellent feeding quality with high fresh yields. Since its introduction to the UK it has become a popular choice with UK farmers. It's high yields makes it ideal for utilisation by dairy, beef cattle and Winter feed for sheep.

Keeper

Keeper is very winter hardy and exhibits good lodging resistance. It is a medium/short type, ideal for finishing lambs and providing high quality Winter keep. It has low SMCO levels (anti-nutritional chemical).

Maris Kestrel

Maris Kestrel is established as the leading UK variety suited to all livestock. Extremely digestible and a long utilisation period makes this a very popular farmer choice.

Sovereign

Sovereign is a high yielding, medium-tall forage kale with good club root resistance. Good dry matter yields and excellent leaf-to-stem ratio. Successfully tested for Winter hardiness and keeping ability, it has the potential to maintain good quality production over a longer usage period.

Thousand Head

Thousand Head Kale is a popular, tried and tested variety with good standing ability and Winter hardiness. Thousand Head is a slender stemmed variety bearing leafy foliage. Excellent Winter hardiness providing forage for feeding after Christmas.



FORAGE RAPE

Why grow Forage Rape?

- **Fast growing leafy catch crop**
- **High protein content**
- **Longer lasting than stubble turnips**
- **Winter hardy hybrids available**
- **Fattening lambs**
- **Flexible sowing period**
- **Sheep, Dairy or Beef production**

Sowing Information

Sowing dates: May – end August
Sowing rate: **Direct Drill** 6kg/ha (2.5kg/acre)
Broadcast 10kg/ha (4kg/acre)

Growing Cost (Approximate)

£408 per hectare
Fresh weight: £12 per tonne
Dry Matter: £107 per tonne

Soil Type

As most crops are grazed in situ a free draining light loam with a pH of 6 - 6.5 is ideal.

Emerald

Emerald is a proven, well known variety producing rapidly establishing, medium to tall leafy plants maturing in 10 -12 weeks after sowing. It is fast growing with average dry matter yields and good general disease resistance. Importantly, it has very good feeding quality, being high in protein and easily digestible, remaining palatable well into the Winter. An added benefit is its widely branched root system for improvement of soil structure.



Hobson

Hobson is the variety for finishing lambs. It has excellent resistance to powdery mildew; a disease which can make some crops unpalatable leading to a high wastage factor. Hobson is very palatable and digestible.



Hungry Gap

For later use, Hungry Gap's exceptional Winter hardiness will ensure crops can be used in January and February. It is best sown in June or July and its growth habit is very kale-like in appearance.



Rampart

Very versatile variety suited to dairy, beef and sheep feeding regimes. Sowing period is Spring, Early Summer and after cereals. Rampart provides a good graze in situ forage crop for Autumn and Winter periods. Good regrowth makes this a promising variety.

Interval

When it comes to filling the gap in your Winter feed programme Interval kale/rape hybrid can really boost your profits. Interval's exceptional yield potential, as well as disease resistance and palatability is ideal for finishing lambs or dairy cows. Interval is very fast to establish with some crops ready to utilise within 10-12 weeks of sowing.



Unicorn

Kale rape cross bred to produce a quality feed in a short period of time, Suited to dairy, beef and lamb production and can be utilised in Summer Autumn and Winter. Ready to graze in as little as 12 weeks from a May sowing and can be sown from May to the end of August. Unicorn can offer regrowth after the first initial grazing as long as grazing management and weather conditions permit.

KALE RAPE CROSSES

Known as Kale-Rapes, these are forage brassicas produced by crossing Kale and Rape to produce varieties which have the rapid establishment and quality of Rape combined with the higher yield and hardiness of Kale.

So far, the best are hardier and more *Alternaria* resistant than most Forage Rapes and slightly higher yielding, like Interval and Swift. Both are ideally suited to Summer planting and Winter use. Redstart is a variety selected for good resistance to bolting, *Alternaria* and Mildew. Normally used for spring planting and Summer use, it has also proven good for Autumn/Winter use.

Interval

When it comes to filling the gap in your Winter feed programme Interval kale/rape hybrid can really boost your profits. Interval's exceptional yield potential, disease resistance and palatability is ideal for finishing lambs or dairy cows. Interval is very fast to establish with some crops ready to utilise within 10-12 weeks of sowing.

Redstart

Redstart is a unique utility fodder crop, which offers the highly beneficial combination of rapid growth ability and good all year round performance. The forage rape genes in Redstart give it the ability to grow very fast while the kale genetics deliver very good Winter hardiness. It's a combination that means Redstart is a superb catch crop for countering late season grazing shortages. Redstart is mainly used as a high energy high protein grazing option for cattle and sheep and is ideal for out wintering systems.

Swift

Swift is a fast growing kale/rape hybrid that offers superior regrowth ability and good all year round performance. The forage rape genes in Swift give it the ability to grow very fast while the kale genes deliver very good Winter hardiness. It is a combination that means Swift is a superb catch crop for countering late season grazing shortages.



Unicorn

Kale rape cross bred to produce a quality feed in a short period of time, Suited to dairy, beef and lamb production and can be utilised in Summer Autumn and Winter. Ready to graze in as little as 12 weeks from a May sowing and can be sown from May to the end of August. Unicorn can offer regrowth after the first initial grazing as long as grazing management and weather conditions permit.



CATCH CROP MIXTURES

Catch crop mixtures are becoming increasingly popular as a way of providing quality feed for finishing lambs or maintaining ewes. Most of these new concepts involve the blending of species such as stubble turnips, forage rapes, kales and Westerwolds.

Pro-Fit

1.00kg Forage Rape
0.80kg Stubble Turnip
0.20kg Kale
2.00kg Acre

Pro-Vider

1.00kg Forage Rape
1.25kg Stubble Turnip
0.25kg Kale Keeper
2.50kg Acre

Pro-Duce

1.20kg Forage Rape
0.80kg Stubble Turnip
5.00kg Westerwolds Ryegrass
7.00kg Acre

ORGANIC Speedy Feed

0.40kg Forage Rape Interval
0.20kg Kale Pinfold
1.40kg Stubble Turnip Dynamo **ORGANIC**
2.00kg Acre

An excellent choice for the Organic farmer looking for a catch crop mix.



FORAGE RYE & ENERGY RYE

Why grow forage rye?

- **Early turnout** (reducing over wintering costs for cows)
- **Winter sheep keep**
- **Flexible sowing options after maize or cereals**
- **Zero grazing and big bale options**
- **Helps mop up residual nitrogen and prevents soil erosion**

Sowing information

Sowing dates: September - October

Sowing rate: **Direct Drill** 185kg/ha (75kg/acre)

Straight sown or 125kg/ha (50kg/acre)

With Italian Ryegrass 17kg/ha (7kg/acre)

Growing Cost (Approximate)

£339 per hectare

Fresh weight: £12 per tonne

Dry Matter: £78 per tonne

Soil type

A weed free sheltered, well drained field is ideal as most crops are grown for their early grazing ability.

Varieties for Forage/Energy Use :



Humbolt

Humbolt forage rye is a UK bred forage variety producing excellent early Spring growth, which can be used for an early turnout for cows or an early graze for sheep. Good Early Spring growth and Winter hardy.

Protector

One of the fastest growing rye varieties available, it even grows at low temperatures when other varieties stop growing. Helps provide protection against soil erosion due to coverage and rapid plant development in Autumn. Constantly high uptake of nitrogen during the Autumn period. Fertiliser can be applied in early spring but should be kept at a moderate level. Dry matter yield of Protector is higher than that of other similar varieties (and is similar to hybrid rye) at time of cutting in early May. Also a useful cover crop option before drilling silage maize.

Hybrid Energy Rye

SU Drive

Low input variety with consistent yields complementing grain and whole crop silage. Very good drought tolerance. Outstanding resistance to brown rust and rhynchosporium.

Cossani

Very high yielding in UK and European trials. Good resistance to lodging. Robust disease profile. Grain suitable for feed and baking.



Helltop

Helltop is a high yielding variety which benefits from vigorous early growth and fast leaf development. Helltop's quick establishment benefits it by out competing weed seed. Performs well on more tricky heavy soils than many varieties. Helltop has preformed well in trials, shows great promise as a variety.



KWS Propower

A top quality Hybrid Rye for wholecrop and AD / Biogas use. KWS Propower has improved straw strength, and a superior harvest index. This delivers higher gas output for AD, owing to a higher starch content at harvest. Improved brown rust resistance.



SU Performer

Turbo hybrid with very high yield. Good lodging resistance, best leaf health. High hagerberg falling number and low enzyme activity. High yielding and high brown rust resistance.

MAIZE



The importance of maturity

Maize silage offers livestock and AD growers the highest energy concentration to drive milk, meat or methane production throughout the year. As maize matures from 25% Dry Matter to 35%DM it moves the sugar in the leaf to starch in the grain. The optimum maturity is 30-35% DM for clamping and production.

Maize Heat Units

Maize is precision drilled in late April / early May when soil temperatures reach 10°C for 4 days at breakfast at 10cm depth. If sowing early check the long term forecast.

Different maize varieties require different amounts of Heat Units (mean of the min and max temp above 6°C on an accumulated basis from 1st May to 30th September) to reach full maturity. The Maize Heat Unit map is based on 30 years of Met office data and show average availability. Height above sea level, aspect, shelter, soil type and fertility will all affect the heat units available on the field.

Bred for Britain varieties

Extensive trialling is conducted throughout the UK in replicated and farm trials to select varieties which are Bred for Britain. Maize varies greatly with location so understanding the genetics and linking to the field and rotation ensures great performance.

Maize Agronomy

Check soil pH (6.5 -7) to ensure nutrients are available to the crop.

Be realistic about nutrients from organic manures and be prepared to top up with bagged fertiliser.

Placed fertiliser "down the spout" with a protected source of Phosphate such as MaxiMaizePLUS will get the crop established fast.

Control all weeds at 2 true leaves, many crops require two herbicides.

Maize in the rotation

Some growers will have a rotational need to drill or harvest early or late and will need to adjust variety maturity accordingly.

Drilling late after first cut grass, or harvesting in late September to establish winter wheat or grass leys are common and allow the field to be fully utilised.



Do you need Film?

Plastic film will increase early season temperatures and ensure rapid establishment. Es Marco has been the highest yielding and given the highest starch yields in MGA plastic trials.



A blocked MaxiMaizePLUS fertiliser spout is clearly visible all year.



MAIZE



Variety	Maturity 11/earliest	Cob Ripeness	Stay Green	Yield	ME	Starch	Plant Height
Es Picker	10	8.5	5.8	97% =16.9t DM/ha	11.4	35.1	2.4m
Es Lovely	9	8.2	6.3	99% =17.7t DM/ha	11.6	34.1	2.4m
Es Remington	9	7.8	6.7	97% =17.0t DM/ha	11.3	31.2	2.3m
Es Ballade	8	7.9	7.0	101% =18.1t DM/ha	11.4	31.8	2.4m
Bonnie	8	7.8	7.6	104% =18.2t DM/ha	11.8	32.4	2.3m
Absalon	8	7.5	7.3	104% =18.2t DM/ha	11.7	30.4	2.2m
Es Constance	8	7.6	7.2	103% = 18.6t DM/ha	12.1	33.8	2.8m
Es Legolas	7	7.0	7.5	108% =18.8t DM/ha	11.1	26.4	2.6m
Es Marco	7	7.5	7.7	102% =18.3t DM/ha	11.4	29.5	2.5m
Cathy	7	6.9	7.6	105% =18.8t DM/ha	11.5	27.5	2.5m
Es Metronom	5	6.5	6.8	106% = 21.1t DM/ha	11.3	30.0	2.6m

Es Picker

Well proven high yielding group 10 for extremely marginal sites with excellent early vigour. Tall erect leaved plant with the best combination of grain maturity and plant dry down. Very stable consistent variety on many different farms and preferred on the most difficult growing sites.
Drill 42,500 –45000 seeds per acre



Es Lovely

Early maturing heavy yielding variety. Lovely has exceptional early vigour for rapid establishment, in difficult seasons and superb resistance to lodging. High starch content and excellent ME value giving a top quality feed. Outstanding yields from an Ultra Early Variety. Excellent cob to bulk ratio combining to fill your clamp with an outstanding feed.
Drill 42,500 –45000 seeds per acre



Es Remington

Remington is an early maturing variety that maintains excellent yield levels. Exceptional early vigour translates into bulky plants with wide erect leaves and long, indeterminate cobs. Rapid starch lay down in the cob and good leaf dry down combine to produce quality silage from fast natural maturity. Remington stands well in the field and has good disease resistance to complete the package.

Es Ballade

Suitable to be grown on all favourable and less favourable sites across a large part of the country. Large cob with rapid cob finish and high scores for cob ripeness ensure Es Ballade continues to be a top UK variety. Even on heavier fields Es Ballade will respond and adapt. High levels of ME and starch combined with high yields for above average financial returns per acre. Very early maturing when grown under film.
Drill 42,500 seeds per acre.



Es Constance

High Yielding mid maturity variety which has done extremely well in National List Trials. Strong early vigour and very suitable for growers with good maize land. High CWD enabling high maize inclusion in the ration. Drill 40,000 to 42,500 seeds per acre

Es Legolas

Already established a reputation for enormous yield potential, Legolas has superb fusarium tolerance and good digestibility. It also has the advantage of an extended harvest window due to a good stay green. Drill 42,500 seeds per acre.



MAIZE



Bonnie

Bonnie boasts high yields and very high dry matter levels. It is suited to production on good maize land. Superb cell wall digestibility and high ME ratings. Also suitable for grain production. Bonnie remains a very popular choice and performs consistently.

Drill 42,500 seeds per acre.

Absalon

Very high digestibility drives production. Long harvest window allowing harvest planning. High output ratio for optimum milk, meat or biogas production. In the main maturity group required by most growers, Absalon has good grain maturity and large cob driving starch production. Plant remains green at harvest increasing harvest window for chopping.

Drill 42,500 seeds per acre.



Es Metronom .

Highest yielding variety on NIAB Very Favorable Descriptive List. Metronom Produces a high quality and highly digestible silage.

Drill 42,500 - 45000 seeds per acre.



Es Marco (Drought Tolerant)

First variety with potential to produce two true cobs for exceptional starch yields. It's real asset is drought tolerance, and especially on light soils it will fulfil its potential in a big way!! Very consistent in very different growing seasons producing enormous yields of high quality silage. Performs exceptionally well under film as it proved in MGA replicated trials, producing yields exceeding 20 tonnes per acre with high starch yields. Will almost always double cob under film.

Drill 42,500 seeds per acre.

Cathy

105% of controls on the NIAB favourable descriptive list. Grows distinctively with large erect green leaves, and exhibits good early vigour. A large plant with a blocky shaped cob containing large flat grains. Will provide very high yields of high ME and starch silage. Drill early on best growing sites for best results. Suitable for forage or AD situations.

Drill 42,500 seeds per acre.



SEED DRESSINGS

All seed of the above varieties will be treated with Mesurol or Korit and all the Es varieties will include the unique maize seed treatment Opticoat Plus

*Bonnie, Cathy & Absalon are treated with Mesurol or Korit but no trace element treatment.

Wireworm Seed Treatment—Force 20
Seed treated with Force 20 will be available for sowing in 2020 for some varieties. Please enquire for more information.

OILSEED RAPE

Oilseed rape remains the best break crop

The establishment of oilseed rape has become a challenge for growers in recent years due to dry conditions and cabbage stem flea beetle. Work by NIAB has shown that early drilling into moisture allows plants to become established before the main flea beetle migration at the beginning of September.

A rule of thumb is to drill your OSR within 6 hours of combining so that the soil remains biologically active and before the wind dries the soil out. Leaving a long stubble has also shown to reduce moisture loss by reducing the wind speed at the soil surface.

Using placement fertiliser also speeds early growth and by placing the fertiliser alongside the row more of the 40kg Autumn N allowed under NVZ rules benefits growth.

Having got the crop through the establishment phase growers are looking at ways of controlling the flea beetle larvae in the Spring.

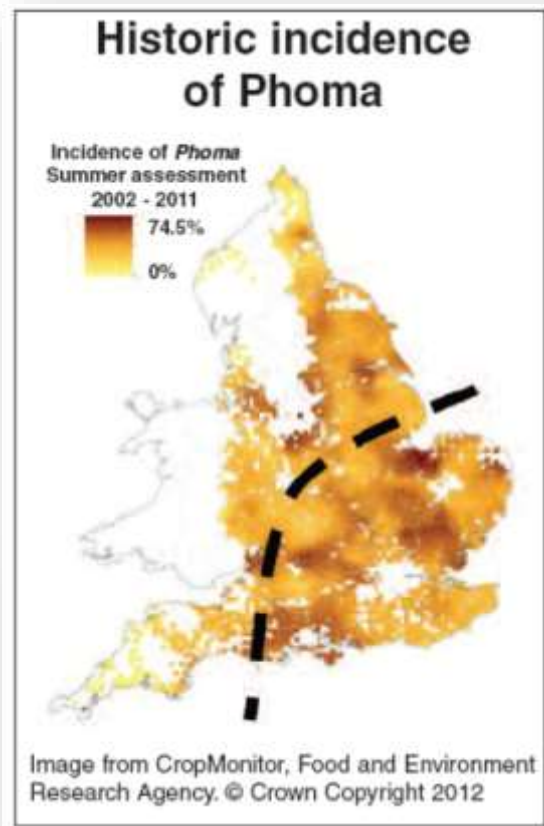
ADAS has worked on sheep grazing and mowing crops with a large biomass before Christmas to open the canopy up and allow the cold weather to reduce larvae populations naturally. There has also been work in France and at NIAB using Spring beans as a companion crop to reduce larvae numbers. Work in 2019 showed 50% less larvae where a sowing rate of Spring beans of 80kg/ha had been drilled. The beans die over winter and release some nitrogen as they die back. This work is ongoing on a wider range of sites in 2020.



Disease resistance key to reducing costs

The three main yield robbing diseases of Oilseed rape are Phoma stem canker, Light Leaf Spot and *Verticillium wilt*.

Breeders have made great progress in improving resistance in the plant to Phoma and *Verticillium*, Light leaf spot is harder with different pathogen races in different areas of the country.



Phoma stem canker is the major disease in the main OSR growing areas in the East and Central region of the UK where 60% of the rape crop is grown.



Easy to harvest

By focusing on Low Biomass conventional varieties such as Es Mambo with superb disease resistance and vigorous establishment the variety can solve many of the challenges of rape growing.

Low Biomass varieties with good lodging resistance allow faster and easier harvesting reducing stress on labour and machinery.



Clearfield tolerant varieties

Problematic cruciferous weeds which are difficult to control with Bifenox and increased levels of volunteers mean that Clearfield varieties, which can be sprayed with Cleranda and Cleravo, improve weed control in the field.



OILSEED RAPE



Es MAMBO

Es Mambo is a high yielding conventional variety which has a high Agronomic Merit Rating of 41.2. It is a proven variety that has maintained consistent yields across a range of sites and across a number of contrasting years both on farm and in trial. Being a low biomass variety Mambo reduces costs and pressure at harvest.

- Combined multigene disease resistance
- Consistent high yields
- Very high oil content
- Low Biomass
- Good resistance to *Verticillium* wilt
- Excellent standing power and lodging resistance
- Very good Autumn vigour aiding establishment



KEEPER

A conventional variety bred specifically for the UK market by independent breeder Mike Pickford. Keeper has proved to have terrific seed yields in the East and West, as well as excellent disease ratings. Strong early vigour enables the crop to get up and away reducing slug and cabbage stem flea beetle damage.

- Excellent Autumn vigour
- Short and stiff variety
- Superb resistance to stem canker
- Strong variety on challenging sites
- Good oil content

ELEVATION

Elevation is a high yielding conventional variety with consistent results year on year in RL Trials. Elevation has good all round agronomic features and disease resistance. Short to medium height variety with excellent stem stiffness which makes it an easier crop to manage and harvest with a low risk of lodging preventing huge losses which can occur with a lodged crop. High gross output and seed yield.

- Very good oil content
- Medium maturity and flowering
- Excellent resistance to lodging
- Good disease resistance
- High scores for stem stiffness



AHDB RECOMMENDED 2020



	Es Mambo	Keeper	Elevation
Gross Output	103.0%	102.7%	104.0%
Oil Content	46.0%	45.5%	45.6%
Height	145 cm	154cm	151 cm
Resistance to lodging*	9	8	8
Stem Stiffness*	8	7.1	8.0
Earliness of flowering*	3.6	4.2	5.0
Earliness of maturity*	5.3	5.4	5.0
Resistance to Light Leaf Spot*	6.4	6.0	6.0
Resistance to Phoma Stem Canker*	7.8	7.0	5.0
Autumn Vigour	Excellent	Excellent	Excellent

*Scale of 1-9 where 9 is the top rating



OIL SEED RAPE



Why Use Clearfield

Clearfield Oilseed Rape is a production system combining high quality hybrid seed with BASF herbicides. The system is a new way to approach weed control in oilseed rape, allowing true post-emergence broad spectrum activity. With a continuing positive outlook for oilseed rape, excellent performance on difficult weeds like charlock will bring new opportunities to grow the crop on the farm using traditional plant breeding. Varieties are being produced by a range of seed companies and there will be wide choice available to the grower. The Clearfield herbicides, with the brand names Cleranda and Cleravo, are UK approved specifically and only for use on winter oilseed rape hybrids carrying the Clearfield brand. Good stewardship of Clearfield oilseed rape is essential.



Es Decibel CL

Tested in NIAB TAG Clearfield trials Es Decibel has shown high yield potential combined with high oil content across multiple locations. Good resistance to both phoma stem canker and to lodging.

Wide row spacings (+ 25cm) provides better weed control in the field allowing the Clearfield herbicides to give full control of broadleaved weeds, volunteer cereals, charlock, volunteer OSR and hedge mustard that can cause oil purity problems.

- Hybrid variety tolerant to Cleranda (IMI)
- High yield potential
- Very high resistance to pod shatter
- Good early vigour
- Very healthy plant, high tolerance to diseases
- RIM7 gene resistance to phoma stem canker
- Good oil content

Treated Yield 4.18t/ha	106%	Earliness of flowering	5.4
Oil Content %	43.8	Earliness of maturity	6.0 (Astrid)
Height	148	Resistance to Light Leaf Spot	5
Resistance to lodging	6.7	Resistance to Phoma Stem Canker	8
Stem Stiffness	6.7	Autumn Vigour	Good

SUNFLOWER

Sunflowers prefer an open sunny site with a potash rich clay loam soil but will tolerate most soil types.

Sunflower crops can be successfully produced south of a line from the Wash to the Bristol Channel.

Sunflowers enjoy a low fertiliser regime. Where soil indices are zero then 50:80:150 NPK should be applied to the seedbed. If soil indices are 2 then no P or K is needed. High nitrogen levels will cause the plants to become very vegetative.

Sow between end of April until May, when soil temp at 5cm depth should be 7°C average. Drill at 3-5cm depth in 25cm rows at a target population of 48,500 seeds per acre or 120,000 seeds per hectare. Sow into light moisture where possible to give the seeds maximum chance of good establishment.

Harvesting normally takes place from Mid September onwards but can be later in poorer seasons.

Sowing information

Sowing dates: End of April until end of May

Sowing rate: **Direct Drill** 120,000sds/ha (48,500/acre) precision drilled.

Full cultural details are available on request.

Es Bella

Bella is an early maturing, high yielding variety that has performed consistently in trials. It is a medium to tall type for oil production. Maturing in approx. 135-140 days Bella is classed as an early variety and can be cultivated as far north as the Wash successfully.

Oil content for Bella is 43-46%.

Bella boasts good standing ability, high dry matter yield and a high oil content.



- High Yielding
- Mildew Resistant
- Sclerotinia Resistant
- Phoma Resistant
- Resistant to Lodging
- Early Maturing
- High Oil Content
- Good Field Standing



SEED PROCESSING SERVICES



Horizon Seeds offers farmers the complete seed service. Here at our headquarters in Eye, Suffolk we can process your seed. From collection through processing, seed dressing, testing and dispatch you can be assured you are getting the best service possible.

Rod Clarke heads our seed processing team and his hands on approach and attention to detail ensures we maintain the highest achievable standards. Our fully accredited plant is staffed by our professional team who have had many years experience within the seed trade. Quality, accuracy and service are the key drivers in our processing.

Our Modern processing and treatment facility is capable of processing both conventional and organic crops. As well as this we are able to adapt to process most species of agricultural crops to the highest of standards.

We are able to pack processed seed into a variety of formats from 1 acre units right up to 1000kg packs to suit your farm needs. We have a modern fully equipped seed cleaning and processing plant here at Eye and are able to process your seed to a very high standard.

Horizon Seeds has a large storage facility on site, recently expanded which has the benefit of offering us continuous production, continuity of supply and flexible distribution options. This allows us to tailor our service to meet your needs and deadlines.

Our network distribution partners offer us the ability to react quickly and efficiently to your demands. Located adjacent, our preferred freight agents offer us an efficient nationwide distribution service which we are able to monitor and track throughout the journey.



HORIZON SEEDS

Tel: 01379 873377

Fax: 01379 873373

Email: info@horizonseeds.com

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COMBINEABLES



Seed Variety Sourcing

Horizon Seeds are proudly independent of breeders so we can source without bias the best varieties to suit your needs. We understand the regional requirements and our constant trials and data gathering/analysis enables us to source the best range of varieties to suit your situation.

Horizons Own Production Seed Crops

Growing our own seed crops allows us to ensure the highest possible seed certification standards are met. We have the luxury, with the benefit of fully trained, experienced staff, to monitor and regularly inspect our seed from sowing right through to harvest.

Technical Knowledge

Our bespoke seed service is at your disposal and Rod and his team are waiting for your call
To discuss your requirements please call Rod on the number below and we will do our best to help you.



COMBINEABLES

CEREALS UPDATE 2020

No-one will need reminding that a very wet Autumn and Winter has presented some of the most difficult sowing conditions in living memory – forcing a very high demand for Spring sown seed!

Looking forward to Autumn plantings, firmer grain prices point to increased Winter wheat plantings.

The 2020/21 AHDB Recommended List has a number of interesting new wheat varieties to focus on:



KWS Kinetic

Kinetic is the new high yielding Group 4 hard addition to the 2020/21 Recommended List, performing especially well in the East and West.

It is a short, stiff strawed variety with good resistance to lodging, a high specific weight and good HFN - in short, it has all the characteristics required to ensure a safe harvest. With an outstanding specific weight of 78.5 kg/hl and the right balance of protein and HFN, KWS Kinetic is able to fulfil the high volume feed market requirements successfully.



RGT Saki

RGT Saki is a group 4 soft variety that delivers an outstanding combination of exceptional yield potential backed up by some of the most robust genetics yet seen in a winter wheat.

RGT Saki delivers an impressive 104% of control in fungicide-treated trials and an incredible 114% in untreated trials. The variety has a very good Septoria tritici score and exceptional rust resistances, as well as being resistant to orange wheat blossom midge. It also exhibits good straw strength and a relatively short growth habit.



KWS Parkin

Although not included represents the latest variety development for growers looking for a technical hard Group 4 wheat to fulfil part of their rotation. A possible choice for growers looking for a competitive wheat for blackgrass control, whilst being early to harvest with extremely short and stiff straw, with good yield potential. In addition, the variety has a solid disease resistance package, with no major agronomic weaknesses and a good grain package with excellent HFN (259) and specific weight (76.3 kg/hl) In short, KWS Parkin is the ideal replacement for growers looking to move on from early short stiff types such as Cordiale and Grafton and out-classed shorter varieties such as Relay and Viscount. At 102% of controls it is best suited to growers in the East where it will appeal to those on heavy land or in highly fertile situations.



No Treatment



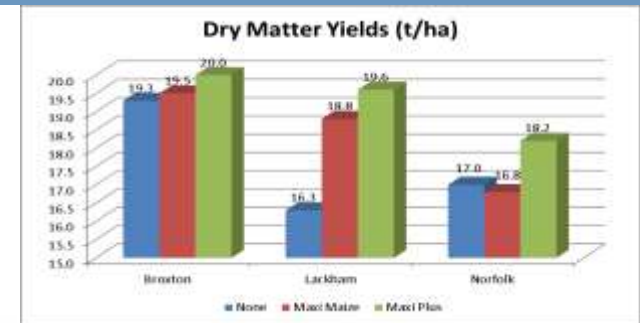
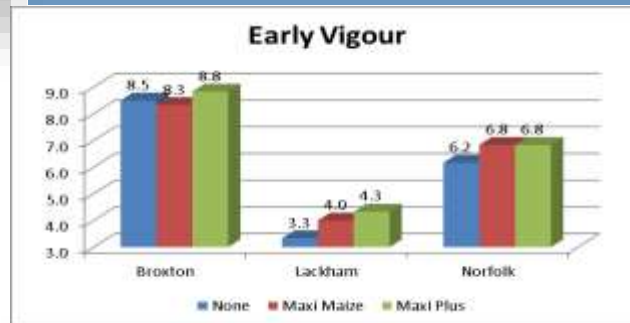
Maxi-Maize PLUS

Maxi Maize Plus

is the ideal placement fertiliser. This is an improvement on the original Maxi-Maize formulation and includes the addition of extra sulphur and copper to improve early season growth and yields. Copper deficiency can have a detrimental effect on cob fill.

Apply one 25kg bag per acre down the spout of the drill.

Field experience shows benefit to growers throughout the season with more vigorous plants, earlier tasselling, more grain sites and earlier grain maturity.



Improved grain maturity and more grains per cob is gained from Maxi Maize PLUS placement fertiliser.

Applied at 1/2 rate of standard DAP (62kg/ha = 25kg/acre)

Analysis 19N : 39.5P : 0.0K + 6.0S03 + 0.5MgO + 0.9CaO + WolfTrax + Zn + Mn + B + Cu + Avail



Maxi-Maize PLUS benefit in the field:

Average increase of 1.7 t/ha DM yield from 2017 trial series at 30%DM that's 5.7t/ha fresh yield (2.3t/ac).

Maize needs some 50% of its total nitrogen requirement from the 8th leaf stage through to tasselling, but a further 35% is needed to fill the cob, during August and September.

However, losses due to leaching and volatilisation of seedbed applied nitrogen may leave the crop short of essential nitrogen during these later stages of growth.

Trials grown since 2012 at a range of sites across the UK, have shown Efficie-N-t 28 can be effectively and safely used on maize and the results have shown an average fresh weight yield response of 13%.

Key Benefits using



- No Leaching
- No Volatilisation
- Almost 100% Uptake
- Accurate Application
- No Scorch
- Compatible with most Fungicides
- Increases Kernel Size and Number
- No Harvest Delay
- Minimises Environmental Impact



Applied in July using a high clearance sprayer

No scorch even at 30°C temperatures

Application Guide

When do I apply it?

July at the 8-12 leaf stage

What rate do I apply?

20l/ha(25kg/ha) diluted in 100-300l/ha of Water

How many applications?

1 per crop which breaks down over 6-8 weeks



SILOSOLVE FC SILAGE ADDITIVE

Good silage shouldn't be an accident.

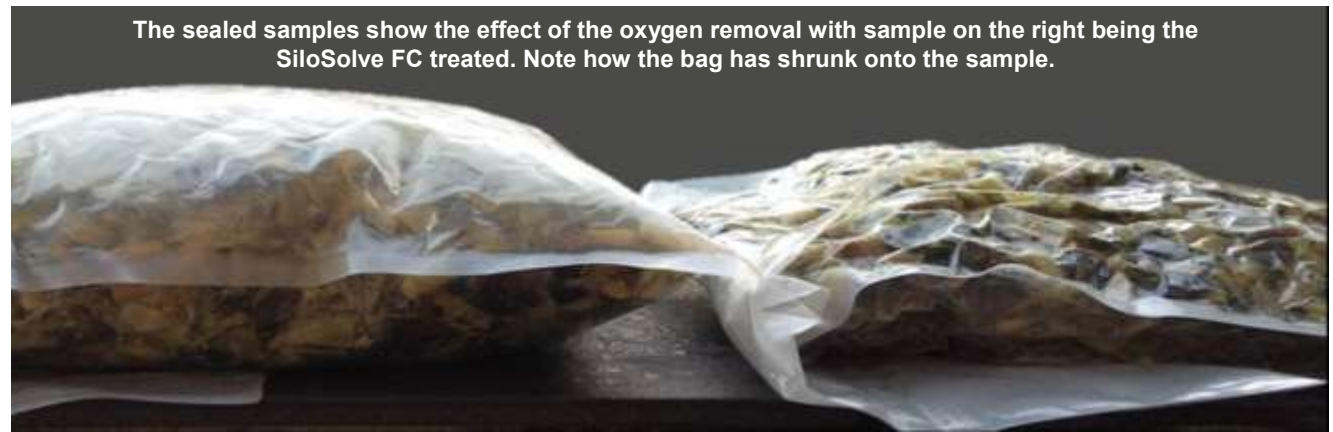
CHR HANSEN

Improving food & health



Forage Technology

SiloSolve[®] FC consistently produces silage preferred by dairy cows. SiloSolve[®] FC promotes rapid, controlled fermentation and ensures that dry matter and nutrients from the field are preserved and available for your COWS.



The sealed samples show the effect of the oxygen removal with sample on the right being the SiloSolve FC treated. Note how the bag has shrunk onto the sample.

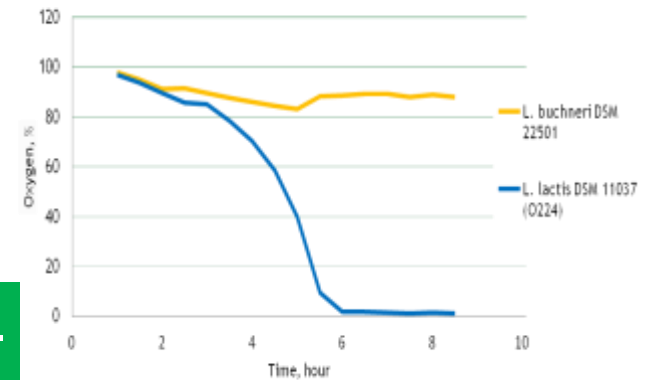
What is SiloSolve FC?

L. lactis rapidly consumes oxygen making it difficult for yeasts and moulds to grow. *L. buchneri* produces acetic acid killing any remaining yeasts and moulds thereby preventing them from spoiling the silage and reducing feed value. Both strains are unique to SiloSolve FC and Chr Hansen.

The *Lactococcus lactis* O-224 and *Lactobacillus buchneri* work synergistically, as O-224 removes oxygen and improves fermentation, while *L. buchneri* reduces fungal growth.

In the chart below you can see that *Lactococcus lactis* O224 has reduced the oxygen in the sample to zero in just six hours

1. Oxygen scavenging effect in silage



Day 1

Untreated



Day 10



Day 1

SiloSolve FC



Day 10



The *Lactobacillus Buchneri* LN1819 is included to reduce the chances of mould. The samples below were exposed to the air in a laboratory for 10 days.

Keep MORE Of What You Cut.

MORE Dry Matter → MORE
 MORE Protein → ME
 ME ME ME

HORIZON SEEDS

Tel: 01379 873377

Fax: 01379 873373

Email: info@horizonseeds.com

SILOSOLVE BG SILAGE ADDITIVE

SiloSolve®BG

The silage inoculant for improving fermentation and stability of biogas silage

SiloSolve®BG is a science-based, research-proven inoculant formulated to drive fermentation and keep biogas silage stable.

CHR HANSEN

Improving food & health

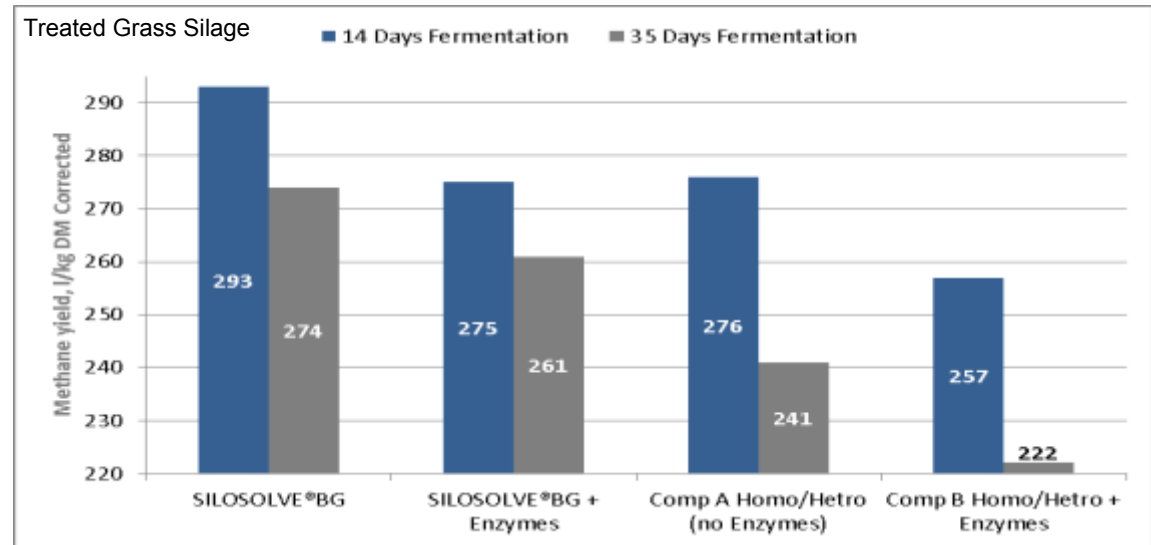


Forage Technology

- ⇒ Improves fermentation
- ⇒ Improves aerobic stability
- ⇒ Optimises efficiency of land use through improved methane yield

Promotes efficient biogas production through:

- ⇒ pH not excessively low
- ⇒ Acidification in balance
- ⇒ Optimal levels of acetate released



Improved methane yield - very rapid generation of acetic acid improves silage stability and also ensures a high methane yield since acetic acid is an important precursor to methane formation.

Flexibility - access your clamp after only 14 days of fermentation. Rapid reduction in pH is critical to control naturally present spoilage organisms on the crop. The benefit of this is improved dry matter recovery as well as nutrient preservation. Tests have shown that the addition of enzymes to the additive give you no added value.

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- **BETTER FERMENTATION**
- **LONGER STORAGE LIFE THROUGH IMPROVED AEROBIC STABILITY**
- **HIGHER ENERGY CONTENT**
- **PROTEIN PRESERVATION**
- **HIGHER ANIMAL PRODUCTIVITY AND PROFIT**

The Biomini® BioStabil Plus additive is a formulation of strategically selected Lactic Acid Bacteria for optimal forage preservation.

These bacteria produce lactic acid and acetic acid in a balanced ratio for an improved fermentation process and longer aerobic stability of silage.

Biomini® BioStabil Plus formulation has the optimum quantity and balance of homo- and hetero-fermentative bacteria (table1) to deliver all the desired outcomes of forage preservation. These include better energy preservation, dry matter delivery and protein retention by rapid lactic acid production and improved aerobic stability on feed out by inhibiting growth of spoilage micro-organisms by sufficient acetic acid production.



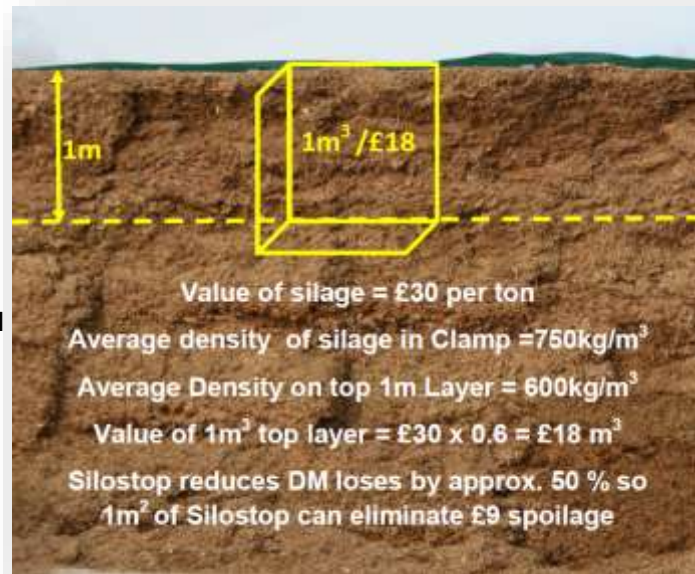
	L. plantarum	L. brevis	L. kefir
Rapid pH drop	+++	+	+
Effective in high dry matter silage		+++	+++
Lactic acid production	+++	++	+
Reduction of clostridia	+++	+++	+
Minimal dry matter losses	+++	+	+
Production of acetic acid and improvement of aerobic stability		+++	+++

SILOSTOP OXYGEN BARRIER

SILOSTOP

Silostop Max

- Impermeable oxygen barrier
- Does not require other plastic layers
- Lightweight yet very strong
- 60 times more effective than conventional sheets
- Eliminates spoiled silage
- DM loss reduced by up to 50% in the top metre
- Reduced labour required to apply
- Available in a selection of sizes
- Proven to work in extensive trials worldwide



Wall Film

- Impermeable oxygen barrier
- Helps achieve the ultimate seal
- Available in 4, 5 and 6m widths
- Can eliminate costly side and shoulder spoilage
- Strong yet durable

Silostop Bale Wrap

- Impermeable oxygen barrier
- Thin yet flexible and durable
- Only requires 4 wraps instead of 6
- Can reduce losses by up to 40%



Film Type	Thickness (micron)	Oxygen Transmission Rate O ₂ - (cm ³ /m ² /24hrs)
SILOSTOP Orange	45	<10
SILOSTOP Max	80	<10
SILOSTOP Wall Film	110	<20
Conventional black PE plastic	125	>300
Conventional "clingfilm"	40	>1000



Win Win Silage Clamp Option: Reduce Plastic & Improve Silage

Silostop Orange

- Impermeable oxygen barrier
- Easy to handle
- Improves animal health
- Clings to silage
- DM Loss reduced in outer m³
- Very Low oxygen transmission rate
- Used with UV cover reduces plastic use by 75%

Silostop SUpaCoVa Pro



- Can reduce plastic use by 75%
- Provides UV protection for up to 10 years
- Reduces labour requirement
- Easy to handle and flexible
- Keeps out birds and rodents
- Flexible nature allows it to mold to the clamp shape

Silostop Orange combined with SupaCova Pro is the perfect clamp solution to reduce plastic use by up to 75% and maximise useable silage.

- Reduce costs
- Reduce wasted silage
- Reduce plastic
- Reduce labour



- Robust yet flexible

SILOSTOP SUpaCoVa Pro System

**SAVE ON RECYCLING COSTS :
REDUCE YOUR PLASTIC USAGE BY UP
TO 75%**

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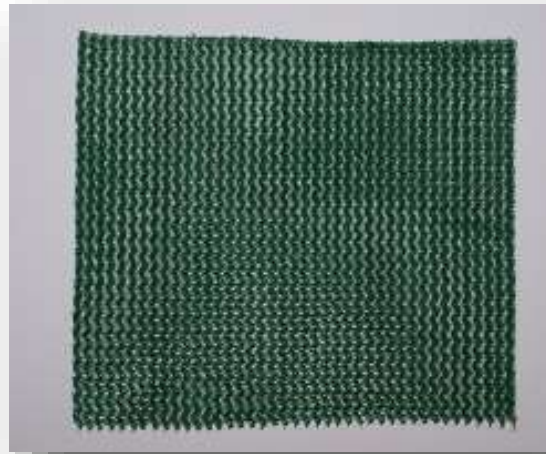
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Why Secure Covers?

- Interlocking woven material will not fray
- Complex mesh reduces wind lift
- Reduces bird damage
- 16 sizes to choose from
- 10 year UV guarantee
- Flexible close contact with silage



Secure Cover Above - competitor below
Not only UV stable for 10 years but does not fray either



Secure Covers - For bale stacks

Big bales getting bird damaged? Secure Covers will prevent them having a free meal at your expense. It will also reduce the rain flow on straw bales by acting as a run off.



Secure Windbreaks

Rapid fit windbreaks with ratchet tensioning system. Can be used for permanent or temporary weather protection and ventilation. Easy to install and easy to use.

- **Tough non fray material**
- **Simple clip-on system**
- **Reduce wind speed by 70%**
- **Allows for good ventilation**
- **Fully adjustable ratchet system**
- **Full 10 year UV guarantee**



Gravel Bags the perfect way of securing your clamps or bale covers avoiding the risks associated with tyres.

- **Easy to handle**
- **Side handles for ease of handling**
- **Durable hardwearing material**
- **Removes the risk of wire from tyres**
- **Long lasting and durable**
- **Grips onto secure covers**



MEET THE HORIZON TEAM



Kevin Jordan
Managing Director

Kevin has spent his entire career in the seed industry, 25 years with us! His vast knowledge of all things seed are an invaluable resource .



Neil Groom
Technical Director

Neil has been with us for 20 years joining us from N.I.A.B. and has a knowledge of forage crops, especially maize, that is second to none.



Jim Juby
Horizon Brand Manager

Jim spent most of his career in the Vegetable seed industry but has spent the last 4 years with us transferring his seed skills to forage.



Rod Clarke
Arable & Forage Specialist

Another "Lifer" Rod has been in the seed trade since leaving school and has a knowledge of arable crops that only a lifer could amass.



Wilson Hendry
Technical Sales

Wilson , another seed trade stalwart, has a fantastic knowledge of all things forage with outstanding knowledge of grass and maize.



Lucy Smith-Reeve
Technical Advisor

Lucy joined us 4 years ago after spending her earlier career as a plant breeder. Her analytical skills when it comes to understanding data are invaluable to us .



Emma Whayman
Financial Controller

Emma has been with us for 23 years in total and keeps us all in check when it comes to anything financial.



Tiggy Pretty
Administration

Tiggy joined us straight from University and keeps all the paperwork in order ensuring we can provide the best possible service.



Gavin Chaplin
Transport Coordinator

Gavin has spent most of his career planning transport and now in his 5th year with us the benefits of his transport knowledge are helping keep prices as low as possible.



Julian Moore
Seed Production

Julian, with over 23 years here has a vast knowledge of seed cleaning and of processing that is unrivalled and always guarantees a fantastic product.



Russell Lewis
Seed Production

Russell has just joined Horizon and is working alongside Julian learning about all things seed processing.



Gary Fulcher
Seed Processing

Gary's speciality is seed mixes. Rest assured that any mix is done with the utmost care and attention.



Dave Wilcock
Seed Processing

Dave has the ability to work anywhere in the plant with his versatile approach.



Nathan Halls
Seed Processing

Nathan joined us last year and looks after all the dispatching of orders.

Tel: 01379 873377 Fax: 01379 873373
Email: info@horizonseeds.com

Horizon Seeds
Unit 3 Airfield Industrial Park,
Langton Green,
Eye, Suffolk,
IP23 7HN

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