

Environmental Land Management and Specialist Crops

Your Partner for On-Farm Funding p5

Conservation Crops p8-17

Green Cover Crops p18-25

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Game Cover Crops p38-41

kings

Turn to Kings to improve your farmed environment



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MyFarm

myfarm@frontierag.co.uk

The farm business management tool designed to support day-to-day decisions. Access all administration associated with your account, plus technology to support your crop production and environmental activities.

Welcome to the 2025 Kings catalogue



Now more than ever, farmers are having to balance the management of their profitability, productivity and sustainability. As we understand more about the future of agricultural policy, farm resilience will be key and the main focus of our support this season.

In this catalogue, you'll find mixtures suitable for conservation, green cover, game cover and forage. With the broadness of our available range, we can cater to your individual farm. Whether establishing in a difficult site or looking to incorporate into your crop rotation, there is a product available for every requirement.

Within this year's case studies you can see first-hand examples of how our growers, with our support, are balancing farming, conservation and sporting activities. They are using our seed products as part of environmental actions in order to access both public and private funding, helping to diversify their income and mitigate risk.

We hope you'll find this catalogue a useful resource for the year ahead and the team is always at hand to offer additional support and guidance on selection, establishment and management of your environmental land management and specialist crops.

Follow us for advice and updates.

 @Kingscrops @FrontierAg @SOYLPrecision  @kingscrops

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Our team

Our nationwide team brings together expert technical and sustainable farming advisors with a wealth of knowledge in conservation and sustainable agricultural practices.

Our people come from a wide range of backgrounds, including agronomy, farm management, consultancy, game keeping and business management.



Northern team at our 3D Thinking Day

This breadth of experience enables the team to understand the importance of on-farm decision making and how these decisions have a direct impact on the success of your farming business.

With local dedicated advisors within each region, we work closely with our colleagues at Frontier to support you with all aspects of sustainable crop production.

This collaborative approach allows us to deliver quality and comprehensive support that suits the whole farm throughout the year. We ensure that our advice is tailored to your farm and aligns with your strategic direction.

With the various challenges facing land managers, our collective team continues to invest in innovation and research to provide evidence-backed expertise and services to help achieve the greatest potential for your farming business.

We believe delivering quality is key and our support goes further than the seed, with technical advice available on topics such as soil health, specialist crops, public and private funding, pest and disease management, biodiversity enrichment and carbon management.

To get in touch with your local advisor, please see page 42 for contact information.



Lexie prepping plot trials



Soil health day with the team



Farmer event at our Elcho demo site



Public and private funding

We are committed to working with farmers to support long-term, viable farming systems that encourage high-quality crop production and help our farmed environment to become more resilient.

Going forward, there will be increasing opportunities to access both public and private funding for environmental actions and sustainable farming practices due to the shift in support that is becoming increasingly available.

Uniquely placed

We are uniquely placed within the industry to link growers to these opportunities, working closely with policy makers and helping to facilitate landscape and farm-scale supply chain projects that financially reward farmers for implementing more sustainable farming methods.

Finding the right solution


To help you navigate the world of private and public funding and find the right solution for your business, we created our '8 Steps to Public and Private Funding' guide which covers the key areas to consider and questions to ask. Please speak to your local advisor to find out more.

Mixes suitable for public funding schemes

Within this catalogue we have a wide range of mixtures specifically designed to meet the requirements of public funding schemes including Countryside Stewardship (CS) and the Sustainable Farming Incentive (SFI). You can use the Option Key on this page to help you select the right mixture for each of your chosen CS or SFI options.

Many of our mixes can be and are already used widely within private funding schemes to meet a variety of requirements. For example, many of our cover crop mixes are used within programmes such as **LENs** and water company funded schemes, as well as for **SFI**. Similarly, our companion crops can be utilised within our oilseed rape de-risking partnership and other supply chain sustainability programmes.

Look for these symbols

	Suitable for Scottish schemes
(CS-SW1)	Suitable for Countryside Stewardship - in this example, option SW1: 4m to 6m Buffer Strip on Cultivated Land
(SFI-SAM3)	Suitable for Sustainable Farming Incentive - in this example, option SAM3: Herbal Leys

If you would like more information on how we can support you with determining the best funding solution for you and your sustainable farming goals, please speak to your local Frontier representative.

Read our case study on page 16 for more details.

Setting the standard

Our quality assurance promise

We are committed to producing a quality product from the best seed on the market and there are rigorous steps we take to ensure we meet the expectations of our customers.

Seed procurement

For the 2024 season, we purchased over 2,000 tonnes of seed. Most of our cereal seed is grown and sourced throughout the UK, alongside several other plant species that are well suited to our climate.

To meet the needs of all our customers, we also source seed from abroad for specific purposes and benefits. Seed sourced from outside the UK is subject to extensive quality protocols and testing.

Supply

Our priority is always quality over quantity.

We take pride in our collaborative relationships with seed suppliers. Through direct breeder contact we continually look at new and improved varieties or species, enhancing the products we can offer to reflect the growing needs of our customers.

Before any seed is delivered to us, we request certification paperwork to confirm germination and purity. Purity is a very important to us; we have HVS (higher voluntary standards) in place to ensure only the best quality seed is purchased.

Mixture formulation and production

We work with our customers to understand what they need from our seed mixtures, focusing on our customer feedback and legislation changes.

We continue to develop our seed mixtures so they work for your businesses. In 2024, three dedicated seed mixers at our Diss site produced over 2,000 tonnes of seed.


Testing and cleaning

Once the sourced seed arrives at our processing site in Diss, Norfolk, our seed then makes its way to the laboratory which is NIAB-accredited. The laboratory team takes a sample to inspect for purity and conduct germination testing. They will carry out this germination testing on all stock being stored. For species that have no legal standard for germination and purity we create our own minimum standards based on those of similar species.

Storage and dispatch

We have storage, production and dispatch facilities at Diss that help facilitate getting our seed to our customers around the country. In addition to processing our mixes, the Diss site will pack and dispatch around 13,500 tonnes of combinable crop every year.





Our expert team is available with trial-based technical advice to help you select the most suitable varieties for your chosen end market. We can help you ensure your product choices align with your whole farm rotation and deliver sustainable returns for your business.

Delivering innovation

- We are committed to offering the latest in seed genetics and seed treatment technology; with ten new cereal varieties available for sowing in Autumn 2025, covering all end market uses of milling, brewing, distilling and feed.
- We conduct independent trials on new varieties to ensure we can make recommendations based on first-hand evidence of results. In 2024 we harvested over 500 varieties from more than 30 trials, with the results contributing to our variety selection and advice on positioning and crop management.

Ensuring quality

- We work to far exceed the minimum standards for seed marketing, providing industry-leading quality through our rigorous testing protocols and quality assurance systems.
- Our network of professional seed growers is supported by multiple in-field inspections to spot potential quality issues, whilst our state-of-the-art seed cleaning equipment can be relied upon to remove impurities.

Reducing risk

- We provide solutions to growers that help to reduce or manage risk throughout the growing season.
- Our oilseed rape de-risking partnership supports farmers to improve profitability and farm resilience by reducing the financial risk of failed establishment.
- Our enhanced range of milling wheat varieties on premium contracts offers improvements in disease resistance and yield over established options, maintaining access to premium markets whilst lowering risk.



Grass-Free Legume Mix

A range of legume fallow options that meet the requirements of the Countryside Stewardship Two-Year Sown Legume Fallow (AB15) and Sustainable Farming Incentive Legume Fallow (NUM3/CNUM3) options.

K122 Annual Legume Fallow Mix

(SFI-NUM3/CNUM3)

For SFI agreements where an annually sown grass-free mixture is required

Contains: berseem clover, red clover, crimson clover, white clover, balansa clover, serradella, vetch.

12kg/ha 12kg pack

K17 Grass-Free Legume Mix

(CS-AB15) (SFI-NUM3/CNUM3)

For post-2021 CS or SFI agreements where a two-year grass free mixture is required

Contains: alsike clover, birdsfoot trefoil, black medick, lucerne, red clover and vetch.

15kg/ha 15kg pack

K146 Heavy Soils Legume Mix

(CS-AB15) (SFI-NUM3/CNUM3)

Perfectly suited to those looking to establish a two-year legume fallow for SFI on heavy soils

Contains: alsike clover, birdsfoot trefoil, berseem clover, vetch, white clover, crimson clover and red clover.

16-18kg/ha 16kg pack

K73 Legume and Timothy Mix

(CS-AB15) (SFI-NUM3/CNUM3)

Suitable for post-2021 CS or SFI agreements where a low level of grass is desired to combat blackgrass competition

Contains: alsike clover, birdsfoot trefoil, black medick, lucerne, red clover, timothy and vetch.

17kg/ha 17kg pack



Sanctuary Mix

POLLEN AND NECTAR

Whether planted as part of an agri-environment agreement or as a stand-alone feature, pollen and nectar mixes provide great habitat for pollinators and insects as well as being visually attractive.

K100 Grass-Free Pollen and Nectar Mix (CS-AB1) (SFI-AHL1/CAHL1)

Our most popular pollen and nectar mix. Once established, it provides an abundance of flowering plants through the season with up to 5 years' longevity

Contains: sainfoin, vetch, lucerne, birdsfoot trefoil, alsike clover, red clover, fenugreek, black medick, sweet clover, phacelia, common knapweed, musk mallow, red campion and white campion.

20kg/ha 20kg pack

KBB1 Butterfly and Bumblebee Mix

A visually striking two-year mix great for those looking for a high-impact pollinator mix

Contains: birdsfoot trefoil, borage, crimson clover, phacelia and red clover.

12kg/ha 12kg pack

K105 Basic Pollen and Nectar Mix (CS-AB1) (SFI-AHL1/CAHL1)

A grass-free mix specifically designed for sites which offer challenging establishment conditions, offering 2-4 years' cover

Contains: vetch, sainfoin, red clover, alsike clover, birdsfoot trefoil, black medick, red campion, musk mallow, self-heal, ox-eye daisy and common knapweed.

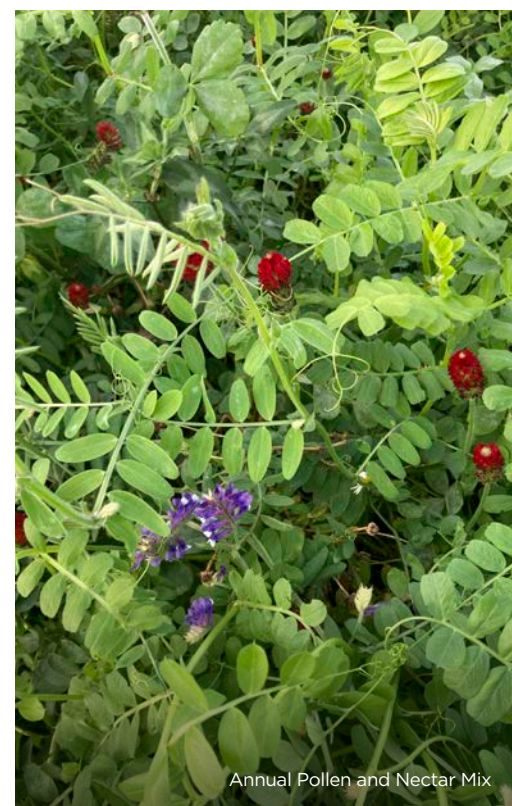
12.5kg/ha 12.5kg pack

K137 Annual Pollen and Nectar Mix (CS-AB1) (SFI-AHL1/CAHL1)

A grass-free annual mixture designed for those looking to establish in the autumn. This mix will need re-seeding after one year

Contains: crimson clover, berseem clover, linseed, red clover, phacelia, serradella, ox-eye daisy, common knapweed and vetch.

15kg/ha 15kg pack



Annual Pollen and Nectar Mix

CONSERVATION GRASS MIXTURES

Our range of conservation grass-based mixtures will satisfy all your needs from buffer strips to whole field options. If you have any specific requirements, please don't hesitate to contact us.

KBG1 Basic Stewardship Grass Mix (CS-SW1/SW3/SW4) (SFI-AHL4/CAHL4/AHL3/CAHL3/WBD3/AHW3)

An all-purpose, hard-wearing mix blending fine and tussocky grasses that is ideal for buffering watercourses and providing nesting cover and an insect-rich habitat

Contains: cocksfoot, hard fescue, smooth-stalked meadow grass, red fescue, tall fescue and timothy.

20kg/ha 20kg pack

KSAN1 Sanctuary Mix (CS-SW1, SW4) (SFI-AHL4/CAHL4/AHW3)

A hugely versatile mix producing a diverse insect-rich habitat that delivers throughout the year

Contains: common knapweed, birdsfoot trefoil, crested dogstail, red fescue, lucerne, ox-eye daisy, perennial chicory, reed canary grass, sainfoin, teasel, timothy, red campion, sweet fennel, white campion and yarrow.

15kg/ha 7.5kg pack

KSR1 Species Rich Grass Mix (CS-SW1/SW3/SW4) (SFI-AHL4/CAHL4/AHL3/CAHL3/WBD3)

A blend of finer grass species where a more open and less tussocky canopy is desired

Contains: chewings fescue, bent, red fescue, crested dogstail, hard fescue and smooth-stalked meadow grass.

20kg/ha 20kg pack

We have included the codes for the most popular grassland actions for which these mixtures are suitable. However, if you need a seed recommendation for an action that is not listed on our mixtures speak to your local advisor for support.

Wildflower and Grass Mixtures

Combining native wildflowers, agricultural legumes and non-competitive grasses, these mixtures are perfect for creating habitats that support beneficial insect populations.

KFRGMIX Flower Rich Grass Mix

(CS-AB8) (SFI-IPM2/CIPM2)

Combining 10% native wildflowers and agricultural legumes with 90% non-competitive grasses, it's the go-to mixture for the CS AB8 and SFI IPM2 options

Contains: red fescue, hard fescue, smooth-stalked meadow grass, chewing's fescue, sainfoin, crested dogtail, birdsfoot trefoil, bent, black medick, red clover, yarrow, common knapweed, self-heal, ox-eye daisy, sorrel, vetch, wild carrot and white campion.

20kg/ha 20kg pack

KFRGMIX Flower Rich Grass Mix is also available with a 20% native/agricultural legume content. Speak to your local advisor for more details.

K55 Legacy

A versatile perennial mixture suitable for a variety of situations containing a blend of 27 native wildflower species (20%) with a selection of non-competitive companion grasses (80%).

4g/m² 1kg pack

K54 Wildflower Meadow Mix

An economical option ideal for larger areas combining 16 native wildflower species (20%) with non-competitive companion grasses (80%).

4g/m² 1kg pack



Flower Rich Grass Mix

Grass-Free Mixtures

Boasting only native wildflowers and agricultural legumes, these grass-free mixtures will thrive on their own or as a vibrant addition to an existing grass sward.

K83 Basic Wild Flower Mix

A versatile blend of native wildflowers and agricultural legumes

Contains: sainfoin, birdsfoot trefoil, black medick, red clover, yarrow, common knapweed, self-heal, ox-eye daisy, wild carrot, red campion, plantain, musk mallow, sheeps burnet, sorrel and white campion.

2-4kg when sown with a suitable grass mix or
4g/m² when planted on its own

K54a Cornfield Annuals

Our ever-popular blend of annual wildflower species, the perfect option for making a visual impact

Contains: common poppy, corn chamomile, corn cockle, corn marigold, cornflower, white campion and scentless mayweed.

1g/m² 1kg pack

ENVIRONMENTAL ACTIONS IN THE ROTATION

With the increase in both public and private funding opportunities available within the UK, the uptake of environmental actions has grown significantly - and there's no doubt that on-farm environmental actions can be beneficial to your farm, bringing benefits such as improved soil structure and biology, increased organic matter, nutrient capture and retention, and the advantages of greater species diversity within the rotation.

Environmental actions and your wider agronomy

With environmental actions such an attractive option for growers and land managers, it's vital to understand how options such as cover crops, herbal leys, legume fallows and companion crops can impact the wider agronomy of your land.

To support growers with managing mixtures, our teams have been undertaking independent environmental screening trials - work which is now providing valuable insight.

Our work has covered areas such as herbicide safety across pollen and nectar plots, legume fallows and in relation to winter bird food, as well as evaluating herbicide programmes for crop safety when companion cropping, which keeps us at the cutting edge of best practice in environmental land management.

Our environmental screening trials

Our environmental screening trials are carried out as a matrix with plots of individual species treated with different products, such as residual cereal herbicides at key times including pre-and post-emergence. Assessments are then carried out through the season, producing results that we can use to give clear direction and help with the management of these mixtures.

Best practice in seed selection

Choosing the right seed mix for your specific rotation while meeting scheme requirements is critical when managing pest, weed and disease pressure on farm. For instance, end markets for some crops may pose restrictions on their use elsewhere in the rotation.



Meet the team

Our team of experts are always on hand to offer additional management support and guidance. We host events across the country on a range of topics to support growers and land managers, including our summer trials days where you can find out more about our full trials programme, including the detail of our environmental screening work under local conditions.

Crop selectivity of a range of residual herbicide and tank mixes applied pre-emergence (02/10/23) and assessed 26 days after application

	Tataricum Buckwheat	Common Buckwheat	Phacelia	Winter Linseed	True Forage Rye	Winter common oat	Black Oats	Crimson Clover	Alsike Clover	Red Clover	Subterranean Clover	Berseem Clover	Fenugreek	Standard Forage Rape	Jupiter Turnip Rape	White Mustard	Sainfoin	Lucerne	Vetch	Defender Radish	Stinger Tillage Raddish	Avalon Beans	Winter Peas
Untreated	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flufenacet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flufenacet + Diflufenican	0	0	0	0	0	0	0	20	20	20	0	60	0	0	0	0	0	0	0	0	0	0	0
Flufenacet + Pendimethalin	0	0	0	0	0	0	0	20	20	20	10	20	0	0	0	0	0	0	0	30	0	0	0
Flufenacet + Diflufenican + Metribuzin	0	50	80	0	0	0	0	20	20	20	20	30	0	80	50	30	0	0	0	30	0	0	0
Cinmethylin + Diflufenican	0	40	20	0	0	0	0	60	40	20	40	70	0	60	60	95	0	0	0	30	30	90	0
Coded	0	0	100	20	0	0	0	0	0	0	0	0	0	0	0	40	0	0	0	30	30	0	0
Flufenacet + Diflufenican + Chlorotoluron	0	20	90	0	0	0	0	100	100	100	90	100	0	70	20	90	0	0	0	100	100	0	0
Flufenacet + Diflufenican + Metribuzin + Aclonifen	0	30	95	0	0	0	0	100	100	60	20	60	0	100	10	70	30	0	30	90	90	0	0
Cinmethylin + Diflufenican + Pendimethalin	80	70	90	0	0	70	70	100	100	50	0	50	0	50	70	90	50	0	90	90	90	80	0
Flufenacet + Diflufenican + Metribuzin + Aclonifen + Tri-allate	70	95	99	0	0	100	100	100	100	70	30	50	0	100	80	100	0	0	0	100	100	0	0
Cinmethylin + Diflufenican + Pendimethalin + Tri-allate	80	80	100	0	0	100	100	100	100	95	30	30	0	100	30	90	0	0	80	90	80	95	70
Flufenacet + Diflufenican + Metribuzin + Aclonifen + Prosulfocarb	100	100	100	0	0	80	90	100	100	100	100	100	0	100	30	100	40	0	70	100	100	95	30
Cinmethylin + Diflufenican + Prosulfocarb	100	100	100	0	0	60	80	100	100	70	0	0	0	100	80	90	30	0	100	99	99	90	50

0 = No Control, 100 = Full Control **Herbicide control information is provided for guidance only and does not constitute a formal recommendation. Please liaise with your local Frontier agronomist for specific advice tailored to your rotation.*

SPRING SOWN GAME AND WILD BIRD SEED MIXTURES

Delivering both feed and cover, our extensive range of wild bird seed mixtures gives you flexibility to choose the right mixture for your requirements.

Many of our mixtures are suitable for both the AB9 Winter Bird Food option in Countryside Stewardship agreements and for AHL2/CAHL2 Winter Bird Food on Arable and Horticultural Land option in the Sustainable Farming Incentive. For further advice on these mixtures and how they can work within your agri-environment scheme, please contact your local advisor.



K51 Wild Songbird Seed

(CS-AB9) (SFI-AHL2/CAHL2) 

An annual wild bird seed mix that can support a wide range of farmland birds

Contains: buckwheat, Gold of Pleasure, Sandoval quinoa, triticale, wheat, sunflowers, fodder radish and white millet.

25kg/ha 25kg pack

KALB1 Alba Mix

(CS-AB9) (SFI-AHL2/CAHL2) 

Prosper-treated kale rape

Initially designed for use in Scotland for the AECS scheme, this annual mix has proven popular across the UK, providing both feed and cover

Contains: triticale, barley, fodder radish, Kings kale rape, brown mustard, Utopia and phacelia.

40kg/ha 20kg pack

K92 Balgonie Grey Partridge Mix

(CS-AB9) (SFI-AHL2/CAHL2)

Prosper-treated kale

A proven all-round mix providing excellent feed, cover and brood-rearing habitat over multiple years

Contains: perennial rye, sweet fennel, Gold of Pleasure, brown mustard, fodder radish, phacelia, linseed, Stand and Deliver (perennial chicory), triticale, ox-eye daisy, common knapweed, birdsfoot trefoil, small-leaved white clover, Coleor kale, wild carrot and red campion.

15kg/ha 15kg pack

K101 Enhanced Spring Sown Mix

(CS-AB9) (SFI-AHL2/CAHL2)

Prosper-treated kale

A high-performing winter feed mixture with the potential for a strong stand of cover and feed in the second year

Contains: Coleor kale, Goldeneye kale, 1000 head kale, Kings kale rape, linseed, Gold of Pleasure, fodder radish, Carbon, phacelia, Utopia and triticale.

30kg/ha 15kg pack

K63 Basic Wild Bird Seed Mix

(CS-AB9) (SFI-AHL2/CAHL2)

A highly effective and economic option for providing winter bird food

Contains: fodder radish, linseed, white mustard, reed millet, Sandoval quinoa, white millet, red millet and Gold of Pleasure.

20kg/ha 20kg pack

K117 Kale Free Biennial Mix

(CS-AB9) (SFI-AHL2/CAHL2)

The perfect option for those looking for feed and cover over two years while avoiding kale in the mixture

Contains: triticale, perennial rye, linseed, dwarf sorghum, Sandoval quinoa, white millet, stubble turnips, sweet fennel, Stand and Deliver (perennial chicory) and phacelia.

25kg/ha 25kg pack

All our kale varieties are treated with Prosper ST seed treatment containing potassium phosphite combined with a broad range of nutrients. This promotes improved speed of germination with increased root biomass, nitrogen assimilation and shoot growth.

Are weeds holding back your winter bird food performance?

The following mixtures are the perfect choice if your winter bird food establishment is impacted by grass or broadleaved weeds, with each mixture offering a dedicated agronomy plan to help with weed control.

KCAM1 Campaign Mix

(CS-AB9) (SFI-AHL2/CAHL2)

Straightforward and effective, a great annual mix for broadleaved weed control

Contains: barley, red millet, white millet, reed millet, triticale, linseed, red clover and wheat.

45-50kg/ha 25kg pack

KCAM2 Campaign Mix South

(CS-AB9) (SFI-AHL2/CAHL2)

Designed for sites in Southern England where additional winter-hardy cover is required

Contains: barley, red millet, white millet, reed millet, dwarf sorghum, triticale, linseed, red clover and wheat.

50kg/ha 25kg pack

K53 Wildlife Winter Holding Cover

(CS-AB9) (SFI-AHL2/CAHL2)

Prosper-treated kale

A diverse and visually appealing mix that offers the potential to deliver over two years

Contains: buckwheat, Coleor kale, Kings kale rape, white mustard, phacelia, Sandoval quinoa, Stand and Deliver (perennial chicory), sunflowers, Utopia and Gold of Pleasure.

22kg/ha 22kg pack



This year, we will again be making a donation to the Gamekeepers Welfare Trust for every bag of K53 Wildlife Winter Holding Cover sold. To learn more about the work of the trust please turn to page 15.

K79 Take-Off Mix

(CS-AB9) (SFI-AHL2/CAHL2)

Prosper-treated kale

Delivers feed and cover over two years, combining effective weed control with a diverse range of plant species

Contains: Coleor kale, fodder radish, Stand and Deliver (perennial chicory), Gold of Pleasure, linseed, dwarf sorghum, red millet, triticale, white millet and Utopia.

25-30kg/ha 25kg pack

K155 Universal Brassica Mix

(CS-AB9) (SFI-AHL2/CAHL2)

Prosper-treated kale

Designed to support control of grass and broadleaved weeds. Strong cover with the potential for two years

Contains: Coleor kale, 1000 Head kale, Goldeneye kale, Kings kale rape, fodder radish, brown mustard, white mustard, linseed, Gold of Pleasure and Utopia.

8kg/ha 8kg pack

KHIGH Highland Mix

(SFI-AHL2/CAHL2) ☒

An annual mix that provides the perfect opportunity to manage persistent broadleaved weeds, such as docks and thistles, while providing an abundance of feed

Contains: triticale, barley, oats, wheat, rye, fodder radish and linseed.

62-75kg/ha 25kg pack

K66 Moir Mix

(CS-AB9) (SFI-AHL2/CAHL2)

Prosper-treated kale

A long-term favourite bringing the potential for two years' cover along with both broadleaved and grass weed control options. Also available with Stand and Deliver (perennial chicory).

Contains: Coleor kale, Goldeneye kale, marrow stem kale, Kings kale rape, linseed, fodder radish, Gold of Pleasure, white mustard, phacelia, Sandoval quinoa and Utopia.

15kg/ha 15kg pack



Campaign Mix South

We also offer organic wild bird seed mixtures. Contact us to discuss your needs.

LATE SUMMER AND AUTUMN WILD BIRD SEED/BUMBLEBIRD MIXTURES

Planting wild bird seed and bumblebird mixtures in the late summer and autumn is a great way to provide valuable food resources for farmland birds and insects like bees and butterflies.

It can also provide easier establishment compared to spring sowing with reduced management. Funding is available for establishing some of these types of wild bird seed mixtures.

K120 Summer Sown AHL2 Mix

(SFI-AHL2)

A quick-establishing annual mix, ideal for when a later drilling window within June and July is required

Contains: fodder radish, white mustard, Sandoval quinoa, Gold of Pleasure, phacelia, linseed and tataricum buckwheat.

15kg/ha 15kg pack

KINTER Interreg Grey Partridge Mix

Prosper-treated kale

Developed through our ongoing collaborative work with the Game and Wildlife Conservation Trust, this mix supports wild grey partridge populations as well as a host of other farmland bird species

Contains: winter triticale, perennial rye, Coleor kale, sweet fennel, Gold of Pleasure, brown mustard, fodder radish, phacelia, winter linseed, Stand and Deliver (perennial chicory), Utopia and lucerne.

20kg/ha 20kg pack

KINTER is also available as a spring-sown mix.

When spring sown, this mix is suitable for winter bird food options within Countryside Stewardship and the Sustainable Farming Incentive.

Speak to your local advisor for further details.



Interreg Grey Partridge Mix

K103 Autumn Sown Wild Bird Seed Mix

Prosper-treated kale

An ideal choice for those looking to support wild game, farmland birds and pollinators with one mix. It is not suitable for the winter bird food options in Countryside Stewardship or SFI

Contains: winter barley, Coleor kale, fodder radish, forage rape, Gold of Pleasure, Kings kale rape, winter linseed, phacelia, Stand and Deliver (perennial chicory), brown mustard and winter triticale.

30kg/ha 15kg pack

K78 Autumn Sown Bumblebird Mix

(CS-AB16) (SFI-AHW1)

Prosper-treated kale

An economical choice for the CS & SFI Bumblebird option, providing feed, cover and pollinator habitat for two years

Contains: winter triticale, winter wheat, fodder radish, Gold of Pleasure, Coleor kale, winter linseed, alsike clover, birdsfoot trefoil, vetch, crimson clover, lucerne, phacelia and red clover.

25-30kg/ha 25kg pack

K147 Winter Recovery Mix

(CS-AB9) (SFI-AHL2)

Prosper-treated kale rape

From July to early September, this is the option to turn to where winter-hardy cover is needed post-harvest or to boost existing crops

Contains: fodder radish, Kings kale rape, brown mustard, Carbon, white mustard, Utopia, turnip rape and tataricum buckwheat.

10kg/ha 10kg pack

Supplementary feeding for farmland birds

Supplementary feeding continues to be a key activity on farm over the winter to promote farmland bird populations. Although Countryside Stewardship (CS) is no longer open for applications, funding for *Supplementary Winter Bird Food (AHW2)* is available through the Sustainable Farming Incentive (SFI) in England.

Feed options

We have a selection of mixtures ready to feed as well as pre-mixes of small seed that can be mixed with home-saved cereals and/or oilseed rape, as well as seed straights if you prefer to mix out on farm.

Our mixes contain different assortments of small seeds depending on your budget and feeding needs, such as canary seed, millets, linseed, sunflowers/hearts and oilseed rape.

For those looking to specifically feed game birds, we provide kibbled maize (with and without aniseed) and holding mixes.

Perdix Farmland Feeders

10% of supplementary feed can be made available to birds through hoppers/feeders. We offer Perdix farmland feeders to support your static supplementary feeding activity. Find out about all our feeding equipment by speaking to your local advisor.

Feeding diary

A complimentary copy of our weatherproof feeding diary is available to supplementary feeding customers. This enables you to record your feeding progress which is required for both Countryside Stewardship and the Sustainable Farming Incentive.



Gamekeepers' Welfare Trust

The Gamekeepers' Welfare Trust (GWT) was formed in 1992 in conjunction with BASC and GWCT.

Since then, it has evolved to support not only those working directly within the country sports community but also those directly connected such as partners, family, friends and those who have retired from or have left jobs.

With its confidential helpline manned 24/7, GWT provides a constant point of support.

Through its network of professionally trained staff and volunteers, many of whom have deep connections to a rural and sporting background, GWT can offer support within mental health, redundancy, housing and grants or just a friendly voice when it is needed most.

Get involved

Their **Stag Training Course** has been designed by ex-Marines to tackle those difficult issues such as leadership, communication, coping mechanisms and health and wellbeing.

The **Hind Training Course** was developed to support the partners of gamekeepers and is available both in groups throughout the country and online.

The **Health and Wellbeing Hub** is available for anyone in rural areas and their families concerned for any aspect of physical or mental health and is available by phone or online.

Kings has been a supporter of The Gamekeepers' Welfare Trust for over 14 years, donating over £10,000 in that time. We remain a strong supporter, committing to a donation from every pack of our Wildlife Winter Holding Cover in 2025.

To get involved in the GWT and offer support, please visit: www.thegamekeeperswelfaretrust.com
Office: 01677 470180
enquiries@thegamekeeperswelfaretrust.com

Jamie's Helpline: 0300 1233088
Health: 0300 011 0018
health@thegamekeeperswelfaretrust.com



Blended funding boosts business and biodiversity

The use of environmental schemes is helping one Nottinghamshire farm recoup lost income from the phasing out of the Basic Payment Scheme (BPS). With help from Kings technical advisor, Anna Ramsay, Tom Channing from Leyfields Ltd is getting the most from the right seed mixes on farm.

Leyfields Ltd is a family-run farm near Newark on a Keuper Marl soil series; silty clay loam land. An arable enterprise at its core, the family farm has a varied cropping system which includes winter oilseed rape, winter feed wheat, winter milling oats, spring malting barley, spring milling oats and forage maize. There are also areas of permanent grassland, herbal leys, scrub, and woodland.

Difficult-to-farm areas

Tom says approximately 10% of the farm is in stewardship – something the family has worked on closely with Frontier and Kings to ensure the right seed mixes are used in the right places.

“We’ve basically managed to fill the gap from the BPS disappearing with a combination of CS, SFI and private funding.”



Tom Channing and Anna Ramsay assessing the oilseed rape

“We have some heavy areas of land which are generally where we establish all of our wild bird covers, pollen and nectar mixes and in-field grass strips, because they’re not the most productive parts of the farm,” he explains.

The farm has had some form of wild bird cover in place for more than 25 years, but more recently it has been planted under the Countryside Stewardship (CS) arable offer alongside the pollen and nectar and in-field grass strips.

The farm also enrolled in the Sustainable Farming Incentive (SFI) in 2023, with cover crops established to capture nutrients, improve soil biology and prevent soil run-off, erosion and leaching.

Tom says as well as receiving financial returns for these from both schemes, the farm also receives private sector funding through

Severn Trent’s Environmental Protection Schemes (STEPS), Unilever, Landscape Enterprise Networks (LENs), and the Nottinghamshire Wildlife Trust.

Wider benefits

In addition to the obvious financial benefit from turning difficult arable land over to stewardship schemes, Tom says there has been an encouraging increase in the amount of wildlife on farm.

“The areas in these environmental schemes aren’t whole fields, but specific areas within fields that are low in production in terms of arable cropping,” he explains.

“We’ve linked these areas up quite well so there are now corridors throughout the farm for the environment.”

As well as the areas mentioned, the family also provides six tonnes of supplementary feeding to farmland birds on the farm each year.

“In the feed, we use 70% of our own wheat and the rest is purchased through Kings comprising a mix of red and white millets, canary seed, sunflower seed and some linseed,” says Tom.

“Since doing this we have seen a big increase in the number of birds on the farm, particularly brambling, chaffinch, reed bunting, linnet, dunnock, green finch and yellowhammers.”

Companion cropping

Leyfields has also started companion cropping alongside its oilseed rape, which it grows under Frontier’s de-risking partnership.

The programme removes some of the financial risk often associated with an oilseed rape crop given the increased pressure from cabbage stem flea beetle (CSFB), with growers only required to pay for the seed once the crop has been established.



Supplementary feed supports farmland birds through winter

For the companion cropping, Tom says the idea is to drill the rape in early September alongside the companion crop, which includes a mix of berseem clover and fenugreek.

Kings technical advisor, Anna Ramsay, says the companion crop mix aids OSR development in two ways: the berseem clover fixes nitrogen, while the fenugreek helps deter CSFB due to its smell.

Future plans

Going forward, the Leyfields team plans to continue farming in harmony with the environment through their involvement in government schemes and other measures to improve soil health.

This includes minimum tillage, which the farm has adopted for the past 30 years, chopping all straw to put back into the soil and applying organic manure where possible.

“We’re trying to achieve something; it’s not just a tick-box exercise for us. As a family we really enjoy seeing the benefit of all this environmental work.”

Tom says the farm will continue to treat the cover and environmental crops in the same way as cash crops too. “There’s a bit more management behind these crops than people think, but we’re in it for the long run,” he explains.



Graham Brown helps Tom and Anna inspect root structures

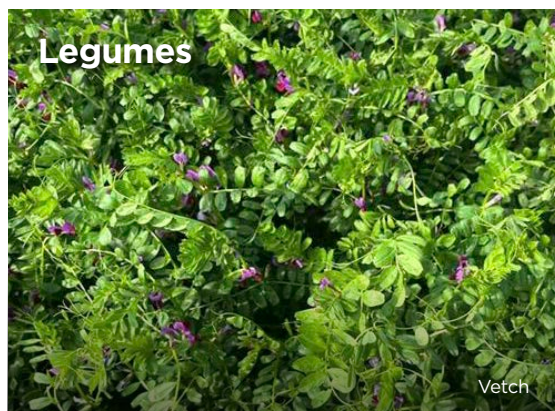
He adds: “We have built up a strong relationship with Frontier and Kings through farm trader Graham Brown, advisor Jim Egan, and now Anna Ramsay.

“The seed quality is reliable and to a high standard with prompt delivery after orders are made. We also value the advice and knowledge of Jim and Anna who are always keen to help with any questions we may have regarding stewardship mixtures across the farm.”

The use of green cover crops continues to grow on farm as we are seeing a clear focus on improving soil health and structure to help mitigate against harsh weather conditions and improve overall business durability.

Our cover crop range has been carefully designed to offer you a large choice of both mixtures and straights. With our broad selection of straights available, you have the flexibility with our support to design the ideal mixture for your farm.

Cereals, brassicas and legumes are very popular choices and are fundamental components in our mixtures. See further detail below for key information on these green cover straights and how they can benefit your soils.



Why?

Working as fertility builders, legumes are a great option for biomass production and often chosen for their soil covering properties.

How?

- The **nitrogen fixing capabilities** of legumes is perhaps what they are most known for
- The interactive nature of a legume's roots mean that **soil microbes can work in symbiosis with the legume** to provide a range of soil benefits, including fixing nitrogen
- Vetch is a popular choice for fast growth and a quick fix of nitrogen - a great addition to a cover crop.

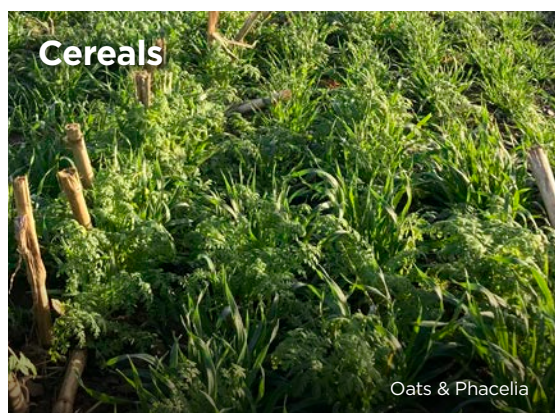


Why?

Brassicas trap residual nitrogen in the soil, reducing the amount of nutrient lost to leaching over winter. Radishes, with their impressive root structure, can bust through a compacted soil profile. Tillage radish is a firm choice for those looking for overwinter soil structure improvement.

How?

- Brassicas are **superb nitrogen scavengers**, capturing more nitrogen than other species in a cover crop window
- Provide **large biomass production** to a cover crop mixture
- Choosing a forage-friendly brassica can take your cover crop to the next level, bringing a **grazing bonus** to the field.



Why?

Cereals provide a valuable soil conditioning function while allowing for a more forgiving drilling window and late winter forage option.

How?

- Cereal roots are **fine and fibrous** making them ideal soil conditioners
- Mostly **winter hardy** and more tolerant of the cold than other options
- Can protect your soil through the winter and then provide an **early forage option** before spring drilling.

GREEN COVER STRAIGHTS

The table below shows the recommended sowing windows for our most popular green cover species and varieties with some key information on the benefits they deliver.

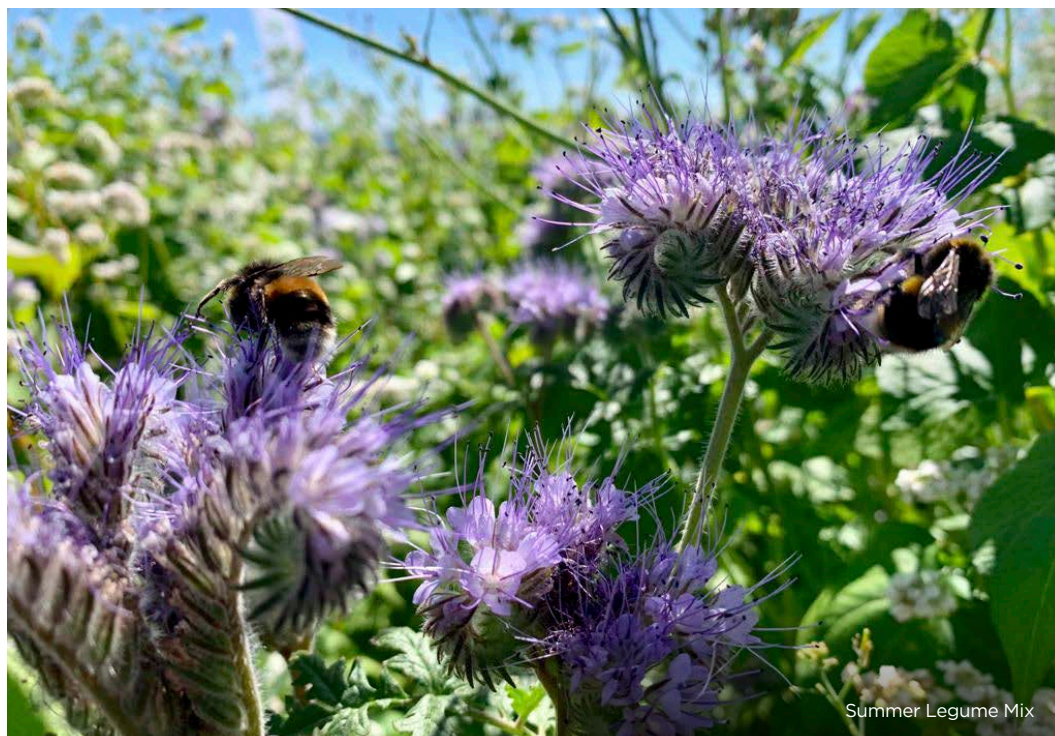
Use this information to help you create a bespoke mixture or to aid you in the selection of one of our standard mixtures available on the following pages. If you would like help to select or fine-tune a mixture to suit your requirements, please speak to your local advisor.

Green Cover Straight	Ideal sowing window					Key Information
	July	Aug	Sept	Oct		
Cereals						
Winter oat						Low-cost and winter-hardy with good biomass and fibrous root system.
Black oat						Quick summer growth and supports good nematode control but frost-sensitive.
Forage rye						High volume biomass and valuable grazing achieved with late summer establishment.
Grain rye						A general-purpose cover crop component.
Legumes						
Balansa clover						A quick-growing annual that is valuable for grazing.
Berseem clover						A quick-growing annual clover with cover or companion crop uses.
Crimson clover						An annual with distinctive deep red flowers; a visually attractive component of green cover mixtures.
Red clover						A perennial suitable for one year cover or grazing use.
White clover						A perennial suitable for grazing and can be used as a living mulch option.
Common vetch						Ideal for use as a straight or within a mix.
Hairy vetch						Good frost tolerance and provides effective over winter nitrogen fixation.
Serradella						A grazing-friendly vetch-like legume with a creeping growth habit.
Blue lupins						Nitrogen fixing with an extensive root system and valuable forage protein.
Brassicas						
Oil radish (Siletina)						Classical radish variety, quick growth and flowering, suited to late- sown mixtures.
Oil radish (Bokito)						A BCN Class 2 variety. Very good re-growth ability so an option where grazing is required.
Oil radish (Angus)						Multi-resistant, medium-flowering. Efficient at reducing free living nematodes such as corn root-knot.
Oil radish (Baracuda)						Combines a high early vigour with very late flowering and beet-cyst nematode resistance (Level 2).
Oil radish (Defender)						Multi-resistant, medium-flowering. Efficient at reducing free living nematodes such as root-knot and root lesion.
Oil radish (Sunday)						Late flowering, low-growing, BCN resistance (Level 2). The latest flowering radish in our portfolio.
Stinger (Tillage Radish)						A tillage (Daikon type) oil radish with very deep powerful roots. Excellent choice for soil structure improvement.
White mustard						Quick-growing, frost-sensitive.
Brown mustard						Displays greater winter hardiness compared to white mustard.
Turnip rape						Quick-growing and winter-hardy, particularly suited to later planting. Good forage source.
Other species						
Phacelia						Extensive, shallow fibrous roots with reliable biomass production.
Sunflowers						Often used within a summer catch crop; quick-growing and frost-sensitive.
Common buckwheat						Quick-growing and frost-sensitive, ideal as a companion with oilseed rape crops.
Tataricum buckwheat						Smaller seed, greater biomass. Later to flower and more frost-tolerant compared with common buckwheat.
Linseed						Quick-growing and reliable fibrous root production.

 Ideal sowing window

We work with our growers, listening to your feedback alongside collaborating with our breeders to stay at the forefront of seed research and development to ensure our seed mixtures deliver across soil health and structure, legislative compliance and grazing opportunities.

If you have a specific crop need, please don't hesitate to contact us to find out how we can customise a green cover solution for you.



Summer Legume Mix



Suitable for grazing

When grazing cover crops, we recommend following advice from your trusted veterinarian on specific species queries.

Within the Sustainable Farming Incentive, the **SAM2/CSAM2 Multi-Species Winter Cover Crops** actions can be grazed, but it still needs to be well-established over the winter months. For mixtures used for actions **SOH2 Multi-species spring-sown cover crop** and **SOH3 Multi-species summer-sown cover crop**, you can only graze to destroy the cover crop - you cannot graze before destruction.

Early-sown options

KSUPER10 Super 10 Mix

(CS-SW6) (SFI- SAM2/CSAM2/SOH2)

A versatile multi-species mix that is suitable for establishment from May. Can be used for either catch or cover crops

Contains: quinoa, winter oat, oil radish, berseem clover, vetch, buckwheat, phacelia, sunflowers, Gold of Pleasure and rye.

20-30kg/ha 25kg pack

K98 Late Flowering Power Mix

(CS-SW6) (SFI- SAM2/CSAM2) 

Suitable for early drilling windows due to the later-flowering radish variety

Contains: winter oats and Baracuda oil radish.

25kg/ha 25kg pack

K131 Summer Legume Mix

(SFI- SOH2, SOH3) 

The ideal legume mix to be drilled straight after harvest. This mix will deliver more the longer it is in the ground

Contains: buckwheat, crimson clover, linseed, red clover, serradella and phacelia.

12kg/ha 12kg pack

K114 Short Summer Mix

(SFI- SOH2, SOH3) 

A rapid-growing catch crop that provides above ground biomass as well as varied rooting structure

Contains: buckwheat, phacelia, linseed, crimson clover, berseem clover and oil radish.

16kg/ha 16kg pack



Radish, Vetch and Phacelia Mix



AECS Winter Mix

Soil health focused

K56 Soil Vitality Mix

(CS-SW6) (SFI- SAM2/CSAM2/SOH3) 

Designed to improve overall soil health and vitality. Different radish varieties available, please speak to your local advisor for details

Contains: oil radish, winter oats, black oats, vetch, berseem clover and phacelia.

20-25kg/ha 25kg pack

KSOILSTRUCT Soil Structure Mix

(CS-SW6) (SFI- SAM2/CSAM2) 

Blended to improve soil structure across a range of depths through the soil profile. Different radish varieties available, please speak to your local advisor for details

Contains: oil radish, tillage radish, winter oats, rye and phacelia.

20-30kg/ha 25kg pack

K67 Basic Soil Improver Mix

(CS-SW6) (SFI- SAM2/CSAM2) 

An economical soil health improvement mix

Contains: winter oats, vetch and phacelia.

15-20kg/ha 20kg pack



Soil-borne pests

Multi-resistant oilseed radish varieties can target beet cyst nematodes and help reduce the impact of other nematodes including the effects on various diseases affecting subsequent crops. When selecting cover crops, careful consideration is needed to ensure the species are best suited for your rotation.

Cereal-free choices

K84 AECS Winter Mix

(SFI-SOH2/SOH3) 

Fulfils the Scottish AECS Stubbles Followed by Green Manure option – also valuable after root crops as a summer fallow option where soil restructuring is required

Contains: red clover, berseem clover, crimson clover and Stand and Deliver (perennial chicory).

10kg/ha 10kg pack

K71 AECS Summer Mix

(SFI-SOH2/SOH3) 

A short-term summer cover crop that offers the potential for a huge amount of biomass with a late-flowering radish coupled with nitrogen fixation from annual clovers

Contains: Sunday oil radish, crimson clover, berseem clover and phacelia.

10kg/ha 10kg pack

K64 Cereal-Free Mix

(CS-SW6) (SFI- SAM2/CSAM2/SOH3)

A popular choice within a cereal rotation, the linseed rooting creates a friable top soil profile perfect prior to a cereal crop

Contains: buckwheat, crimson clover, linseed, oil radish, phacelia and vetch .

16kg/ha 16kg pack

K72 Radish, Vetch and Phacelia Mix

(CS-SW6) (SFI- SAM2/CSAM2) 

A good all-round cover crop suitable for grazing

Contains: vetch, oil radish and phacelia.

20kg/ha 20kg pack

K76 Radish and Phacelia Mix

(CS-SW6) (SFI- SAM2/CSAM2) 

A simple two-way SFI compliant mix offering varying root depths

Contains: oil radish and phacelia.

12.5kg/ha 12.5kg pack

At Frontier we offer a range of soil sampling services, measuring soil health and nutrient or nematode levels to inform crop choices. Speak to your local advisor for more information.



Soil Vitality Mix

Sowing date is crucial when getting the most out of your mixtures. Different types of radish flower at different times in the season and you want to ensure you select the appropriate radish so it continues to offer large amounts of biomass during the season. Also, mixtures with legumes need to be established by the middle of August to get the best the performance.

Use our table on page 19 to see the optimum sowing date period for each species.

Later-sown options

K65 Forage Rye and Radish Mix

(CS-SW6) (SFI- SAM2/CSAM2/SOH4)  

A simple two-way mix ideal following early-harvested forage maize for those with grazing requirements

Contains: forage rye and oil radish.

25kg/ha 25kg pack

K34 Post-Maize Grazer

(SFI- SAM2/CSAM2/SOH4) 

Designed for planting after maize harvest, providing a leafy grazing cover that also helps to protect the soil

Contains: forage rye, turnip rape and oil radish.

30kg/ha 25kg pack

K90 Traditional Power Mix

(CS-SW6) (SFI- SAM2/CSAM2)  

A valuable blend covering a range of rooting depths

Contains: winter oats, oil radish and phacelia.

25kg/ha 25kg pack

KOATP Oat and Phacelia Mix

(CS-SW6) (SFI- SAM2/CSAM2/SOH4)  

A simple, economical and highly effective mix commonly used before a legume crop and useful after a maize crop

Contains: winter oats, phacelia and red clover.

25kg/ha 25kg pack

Forage focused

KVRCOVER Vetch and Rye Mix

(CS-SW6) (SFI-SAM2/CSAM2)  

A versatile mix that can be utilised for grazing – sow by early August for best results

Contains: rye and vetch.

40kg/ha 25kg pack

KGRAZE Post-Harvest Grazing Mix

(SFI-SAM2/CSAM2/SOH4) 

Bringing together the best of grazing and cover crops, this mix strikes the balance required to deliver for both your livestock and soils. Can be used for SOH4 in SFI, following early harvested maize

Contains: forage rape, kale rape, tillage radish, turnip rape, berseem clover and stubble turnips.

8-10kg/ha 10kg pack



Vetch Root Nodules

COMPANION CROPS

Companion cropping within oilseed rape is now a common and popular method of mitigating the damage caused by cabbage stem flea beetle (CSFB). In recognition of its valuable contribution, companion crops now form part of several public and private funding schemes including our oilseed rape de-risking partnership.

Using the right species of companion crop, either before or at planting, offers protection against CSFB while encouraging crop establishment. We use four species in our companion crop mixes:

Berseem Clover

Why?

Provides valuable crop nutrition benefits

How?

- As a legume species, it will start fixing nitrogen within nine weeks of planting
- It decomposes quickly in the spring, releasing nutrients to the crop.

Fenugreek

Why?

Disguises the OSR crop from CSFB

How?

- It produces a distinctive scent that masks the plant volatiles that CSFB use to identify oilseed rape.

Buckwheat

Why?

Attracts beneficial insects and offers crop nutrition benefits

How?

- Provides pollen and nectar that attracts insects such as parasitic wasps that feed on CSFB larvae
- Frost-susceptible and, as it decomposes, mobilises phosphate in the soil.

Tataricum Buckwheat

Why?

Provides a canopy to shelter emerging oilseed rape plants

How?

- Flowering later than standard buckwheat, it produces more biomass to create a denser canopy.

Mixture Name	Berseem Clover	Fenugreek	Buckwheat	Tataricum Buckwheat	Pack Size
K12 Companion Crop Mix 1*	✓	✓	✓		3ha
K16 Companion Crop Mix 2*	✓	✓			3ha
K18 Companion Crop Mix 3*	✓		✓		3ha
K86 Companion Crop Mix 4*	✓	✓		✓	3ha
K91 Companion Crop Mix 5*	✓			✓	3ha
K113 Companion Crop Mix 6*			✓	✓	2ha
K127 Companion Crop Mix 7*		✓	✓		1ha
We do not advocate mixing companion crop seed with oilseed rape seed, as differing seed sizes can lead to separation and seed rate inaccuracies. Straight species are also available					

*These mixtures are suitable for the SFI actions, Companion Cropping on arable and horticultural land (IPM3/CIPM3)

Companion cropping has value beyond oilseed rape - its inclusion within the Sustainable Farming Incentive (SFI) has increased its scope into other crops. Living mulch crops, which are medium-term cover crops that grow alongside a cash crop, are one option to meet the SFI requirements while providing valuable soil and crop health benefits.

K163 Living Mulch Blend

(SFI- IPM3/CIPM3)

A ready-to-go living mulch mix suitable for sowing ahead of or alongside a range of combinable crops

Contains: Rivendel, AberAce and Jura small-leaved white clover and subterranean clover.

5kg/ha 25kg pack



Cover crops improve soils and long-term returns

Cover cropping is helping a Norfolk arable operator increase yields and improve soil structure. Rick Perry-Warnes from JW Perry-Warnes & Sons has worked with Kings and Frontier to find the right cover crops for the family enterprise.

Pages Farm, located at Wood Dalling, comprises 1,900 hectares of owned, tenanted and contract-managed land featuring a mix of soil types from sandy to heavy clay. For the past eight years, the farm has been planting cover crops to improve soil health and 500ha are currently grown every year.

He says before cover crops were introduced the land had become increasingly difficult to work, with water pooling on heavy soils for long periods and light land burning up.

The farm's typical five-year arable rotation includes winter barley into oilseed rape

followed by wheat and then sugar beet, with peas and beans grown on heavier land. Now, the farm only ploughs when necessary – for example, to address black-grass issues – with minimum tillage the preferred method.

Rick farms alongside his dad Peter, uncle Tom, mum Anne, wife Hannah, and two full-time staff

brassicas such as turnips, forage rape and kale. Approximately 120ha is grown and contract grazed by neighbouring livestock farmers with sheep.

On medium soils the farm uses deep-rooting radish and shallower-rooted oats, with different root depths helping to penetrate the soil profile.

On heavy soils radish was previously used, but in 2024 the Perry-Warnes family switched to a mix of buckwheat, vetch, phacelia and oats in a bid to improve slug control in the following spring crop.

“Cover cropping isn’t cheap but offers a significant return... the payments from SFI and contract grazing certainly help, but the soil benefits alone are worth more than the cost.”



The Perry-Warnes family
(photo credit: Chris Hill/Eastern Daily Press)

Before adopting this practice, stubbles were left bare before ploughing in December – a method Rick Perry-Warnes describes as “appalling” due to the damage caused by such heavy cultivation.

members, Daniel and Luke.

Mixtures

The choice of cover crops used at Pages Farm varies depending on soil type. On light land, a post-harvest grazing mix is used comprising

Cover crops are sown in late August or early September after harvest. They are then sprayed off about six weeks before following crops are drilled – usually around Christmas time.



Rick and Peter with Richard Grant
(photo credit: Chris Hill/Eastern Daily Press)

Benefits

Rick believes the cover crops help retain nutrients in the soil for the subsequent crop, preventing them from being leached into land drains and watercourses.

Since adopting them, the farm has also seen sugar beet yields increase by 20%. Previously, yields averaged 65t/ha, but now they reach 85t/ha when lifted in early September and up to 100t/ha in early November. Rick attributes this improvement to a combination of better seed varieties and enhanced soil health.

“After just a few years, we noticed a massive difference in soil health, especially on heavy land.”

“The soil is more workable and can handle wetter winters because the roots from the cover crops open the soil, allowing water to drain. On lighter land, the root structure also helps retain moisture and the land doesn’t slump, making the soil more drought-resistant.”

While wheat yields remain steady at around 9-12t/ha depending on the season, regular soil testing every three years ensures targeted nutrient applications, with lime added as needed.

Although growing cover crops incurs costs – estimated at around £90/ha for establishment, including cultivation which would occur regardless – Rick considers it a worthwhile investment.

The farm currently claims £129/ha/year under the Sustainable Farming Incentive (SFI) for cover cropping, which previously fell under Mid-Tier support. This dictates that there must be at least two species in the mix.

“Cover cropping isn’t cheap but offers a significant return on investment,” says Rick. “The payments from SFI and contract grazing certainly help, but the soil benefits alone are worth more than the cost.”

Pages Farm collaborates closely with Kings, Frontier and their independent agronomist to ensure the most effective cover crop mixes are used.

The Perry-Warnes family has also worked with Richard Grant, a farm trader at Frontier, for many years and says his knowledge and support are invaluable.

“We have a great relationship with Frontier, and working with them makes our job so much easier.”

“They help us get the right species for what we are trying to achieve and do bespoke mixes depending on the field type.”



Richard agrees that establishing cover crops is helping with long-term gains, adding: “It is benefiting the soil and the biggest return is coming from the next crop.

“What is important, though, is that farmers work with their agronomist to ensure they are selecting the right species for what they are trying to achieve. It’s about putting the right plants in the right place.”

When Rick has taken on more land where cover crops haven’t been used, he says he can see the difference straight away. He believes cover crops are a massive part of the farm’s long-term sustainability, adding: “Without healthy soil, we cannot grow good crops. The soil is making our farm more viable.”

FORAGE GRASS MIXTURES

We work closely with growers and suppliers to ensure we can tailor the right mixture to meet all requirements. Please see our range of mixtures in the table below and further mixture details are available in the pages that follow. Species in the table below that have a yes in brackets (yes) can be added to that mixture. Speak to your local Kings advisor for more details.

		Westerwolds	Sprinter	Catch Crop	Vesuvius	Extra Cut	Pearl	Cut & Graze	Quartz	Flexicrop	Meat & Milk	All Stock	Jade	Emerald	X-Tend	Haylage	Haymax
Seed rate per acre		15-20kg	14-16kg	14-16kg	12-14kg	13-15kg	13-15kg	13-15kg	13-15kg	13-15kg	13-15kg	13-15kg	14-16kg	14-16kg	14-16kg	13-15kg	13-15kg
Pack size		20kg	20kg	20kg	12.5kg	20kg	14kg	14kg	14kg	20kg	20kg	20kg	14kg	14kg	15kg	14kg	20kg
Grazing	Out of 5	2	2	2	2	3	3	4	4	4	5	5	4	4	5	3	5
Silage		5	5	5	5	5	5	4	4	4	3	3	4	4	3	5	3
Hay		3	3	3	3	4	4	4	4	4	4	5	5	4	4	5	5
Lifespan (Years)		1	1-1.5	1-2	2	2-3	3	3-4	4	4-6	5	5	4-6	5	5	2-4	4-5
Westerwolds		yes	yes														
Italian Ryegrass			yes	yes	yes	yes	yes									yes	
Festulolium					yes		yes										
Ryegrass Plus						yes				yes							
Hybrid ryegrass						yes	yes	yes	yes	yes						yes	
Early perennial ryegrass																	yes
Intermediate perennial ryegrass								yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Late perennial ryegrass									yes	yes	yes	yes	yes	yes	yes		yes
Timothy											yes	yes					yes
White clover								(yes)	(yes)	(yes)	(yes)	(yes)	(yes)	(yes)	(yes)		
Red clover					(yes)	(yes)	(yes)	(yes)									
Crimson clover			(yes)														






The first steps towards the right mixture for you:

- 1. Is it for cutting or grazing?
- 2. How long do you want it to last?
- 3. Do you want clover in the mixture?

Speak to your Kings advisor for further information.

		Protein Plus	Ruby	Multi-Species Short-Term	Multi-Species Cut and Graze	Multi-Species Long-Term	Elite Herb-Rich Sward	Grass-Only Herb-Rich Sward	Grass-Free Herb-Rich Sward
Seed rate per acre		12-15kg	12-15kg	12-14kg	12-15kg	12-15kg	10-14kg	10-14kg	3-4kg
Pack size		20kg	13kg	20kg	20kg	20kg	20kg	20kg	10kg
Grazing	Out of 5	4	4	3	4	5	4	4	4
Silage		5	5	5	5	4	4	4	4
Hay		3	3	3	3	3	4	4	4
Lifespan (Years)		2-3	3-5	1-2	3	4+	3	3-4	3
Italian ryegrass		yes		yes					
Festulolium							yes	yes	
Ryegrass plus		yes							
Hybrid ryegrass		yes	yes	yes	yes		yes	yes	
Intermediate perennial ryegrass			yes		yes	yes	yes	yes	
Late perennial ryegrass			yes			yes			
Timothy					yes	yes	yes	yes	
Creeping red fescue							yes	yes	
Meadow fescue							yes	yes	
Red clover		yes	yes	yes	yes		yes		yes
White clover					yes	yes	yes		yes
Alsike clover									yes
Birdsfoot trefoil						yes	yes		yes
Lucerne							yes		
Crimson clover				yes					
Sainfoin									yes
Chicory					yes or Burnet		yes		yes
Plantain				yes	yes	yes	yes		yes
Sheeps parsley							yes		yes
Burnet				yes		yes	yes		yes
Yarrow							yes		yes

Look for these symbols

-  Available with red clover
-  Available with white clover
-  Suitable for overseeding

Westerwold 1 year

(SFI-IPM3/CIPM3/SOH4)

- Highly productive annual grass
- Ideal for silage production.

15-20kg/acre 37-50kg/ha

Kings Sprinter 12-18 months

(SFI-IPM3/CIPM3/SOH4)

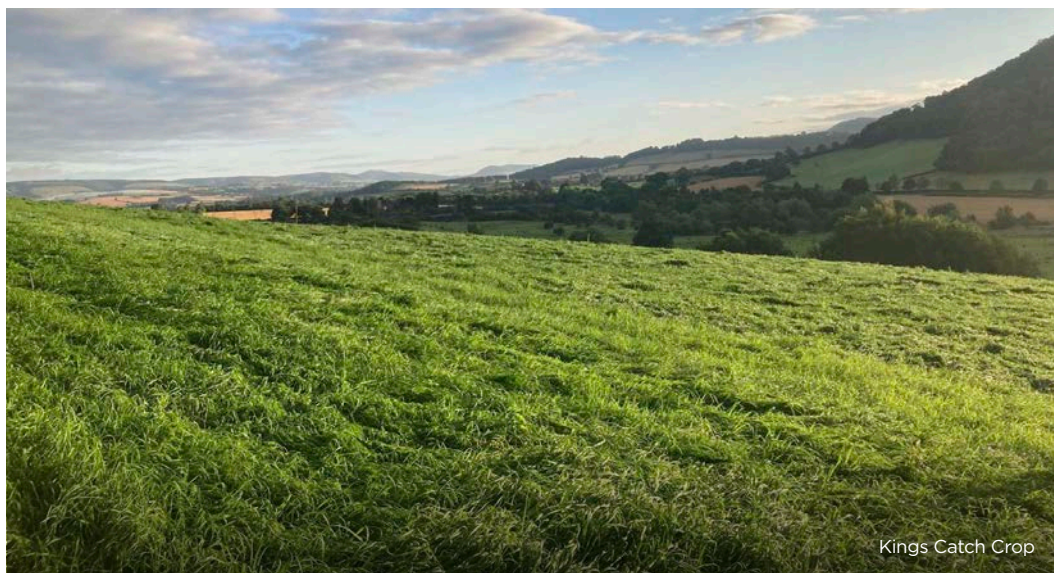
50% LOLAN Westerwold ryegrass tet.
50% ALAMO Italian ryegrass dip.

- Available with crimson clover
- Short-term cutting mixture with rapid establishment
- Excellent early spring growth.

14-16kg/acre 35-40kg/ha



Kings Sprinter undersown with maize.



Kings Catch Crop

Kings Catch Crop 1-2 years

(SFI-IPM3/CIPM3/SOH4)

36% SIKEM Italian ryegrass dip.
64% JEANNE Italian ryegrass tet.

- Ideal mixture for break crop
- Will produce high yields in both years of production with rapid recovery after cuts
- Makes excellent coarse horse hay.

14-16kg/acre 35-40kg/ha



X-Seed Vesuvius 2 years



32% ALAMO Italian ryegrass dip.
32% HUNTER Italian ryegrass tet.
36% ABERNICHE festulolium.

- Available with red clover (NB. Sowing rate increase to 15kg/acre)
- Intensive silage mix with exceptional early growth
- Fast establishment with explosive short-term yields
- Narrow heading date to optimise overall yield and D-value.

12-14kg/acre 30-35kg/ha

Kings Extra Cut 2-3 years



10% PERSEUS Ryegrass plus*.
15% LOFA Ryegrass plus*.
20% SENDERO Italian ryegrass dip.
15% HUNTER Italian ryegrass tet.
25% TETRAGRAZE Hybrid ryegrass tet.
15% ASTONCRUSADER Hybrid ryegrass tet.

- Available with 15% red clover
- Aimed at 3-5 huge conventional cuts over two seasons with potential for early first cut in year three
- Improved forage quality from hybrid and ryegrass plus.

13-15kg/acre 32-37kg/ha



X-Seed Pearl 3 years



21% JACCAR Italian ryegrass dip.
21% ABERNICHE Festulolium
29% ABERIMAGE Hybrid ryegrass tet.
29% ASTONCRUSADER Hybrid ryegrass tet.

- Available with 23% red clover
- Intensive multi-cut silage mixture
- Exceptionally high ME levels.

13-15kg/acre 32-37kg/ha

* Ryegrass Plus – This is a high-class festulolium (a cross between a fescue and a ryegrass) providing high seeding vigour, very high yields, early spring growth and better persistency.



Kings Cut and Graze

Kings Cut and Graze 3-4 years

25% KIRIAL Hybrid ryegrass tet.
25% BANNFOOT Hybrid ryegrass tet.
25% BARSILLO Hybrid ryegrass dip.
25% FINTONA Intermediate perennial ryegrass tet.

- Available with white or red clover
- Dual purpose and suitable for 2-3 cuts followed by autumn grazing
- Excellent mixture for overseeding existing silage ground.

13-15kg/acre 32-37kg/ha

Kings Flexicrop 4-5 years

16% LOFA Ryegrass plus*.
11% TETRAGRAZE Hybrid ryegrass.
10% ASTONCRUSADER Hybrid ryegrass tet.
15% AGASKA Intermediate perennial ryegrass dip.
15% SEAGOE Intermediate perennial ryegrass tet.
15% WETHERBY Late perennial ryegrass dip.
18% NASHOTA Late perennial ryegrass tet.

- Available with 5% white clover
- High annual yield
- Vigorous early growth and quality first cut.

13-15kg/acre 32-37kg/ha

X-Seed Quartz 4 year

29% ABERIMAGE Hybrid ryegrass tet.
21% ABEREDGE Hybrid ryegrass tet.
14% ABERSPEY Intermediate ryegrass tet.
36% ABERGAIN Late perennial ryegrass tet.

- Available with 5.35% white clover
- Intensive medium-term multi-cut ley which is also suitable for overseeding
- 4-6 very productive cuts with high D-value and 100% tetraploid for improved vigour.

13-15kg/acre 32-37kg/ha

Kings All Stock 5 years +

25% BOYNE Intermediate perennial ryegrass dip.
25% NOLWEN Intermediate perennial ryegrass tet.
23% TODDINGTON Late perennial ryegrass dip.
23% NASHOTA Late perennial ryegrass tet.
4% COMER Timothy.

- Available with 4% white clover
- All-round mixture ideal for cutting and grazing
- Economical option, which still delivers a reliable performance
- Suitable for dairy, beef and sheep production.

13-15kg/acre 32-37kg/ha



Kings All Stock

Kings Meat and Milk 5 years +

19% AGASKA Intermediate perennial ryegrass dip.
17% SEAGOE Intermediate perennial ryegrass tet.
11% CONVEY Intermediate perennial ryegrass tet.
13% BOWIE Late perennial ryegrass dip.
12% TIMUCO Late perennial ryegrass dip.
21% NASHOTA Late perennial ryegrass tet.
7% COMER Timothy.

- Available with 6% white clover
- Excellent mixture that provides outstanding live weight gains
- Perfect for long-term silage production and grazings
- Timothy offers winter hardiness, early spring growth and improved tolerance to cold and wet.

13-15kg/acre 32-37kg/ha

Mixtures available with and without clover, please speak to your advisor for more details.

LONG-TERM MIXTURES

X-Seed Jade 4-6 years

- 14% ABERZEUS Intermediate perennial ryegrass dip.
- 11% ABERGREEN Intermediate perennial ryegrass dip.
- 14% ABERBANN Late perennial ryegrass dip.
- 21% ABERSPEY Intermediate perennial ryegrass tet.
- 29% ABERGAIN Late perennial ryegrass tet.
- 11% ABERSEVERN Late perennial ryegrass dip.
- Available with 7.1% white clover
- Outstanding multi-cut silage ley
- Very high ME yields/ha
- Ideal for frequent cutting whilst avoiding later season stemmy growth.

14-16kg/acre 35-40kg/ha

X-Seed Emerald 5 years +

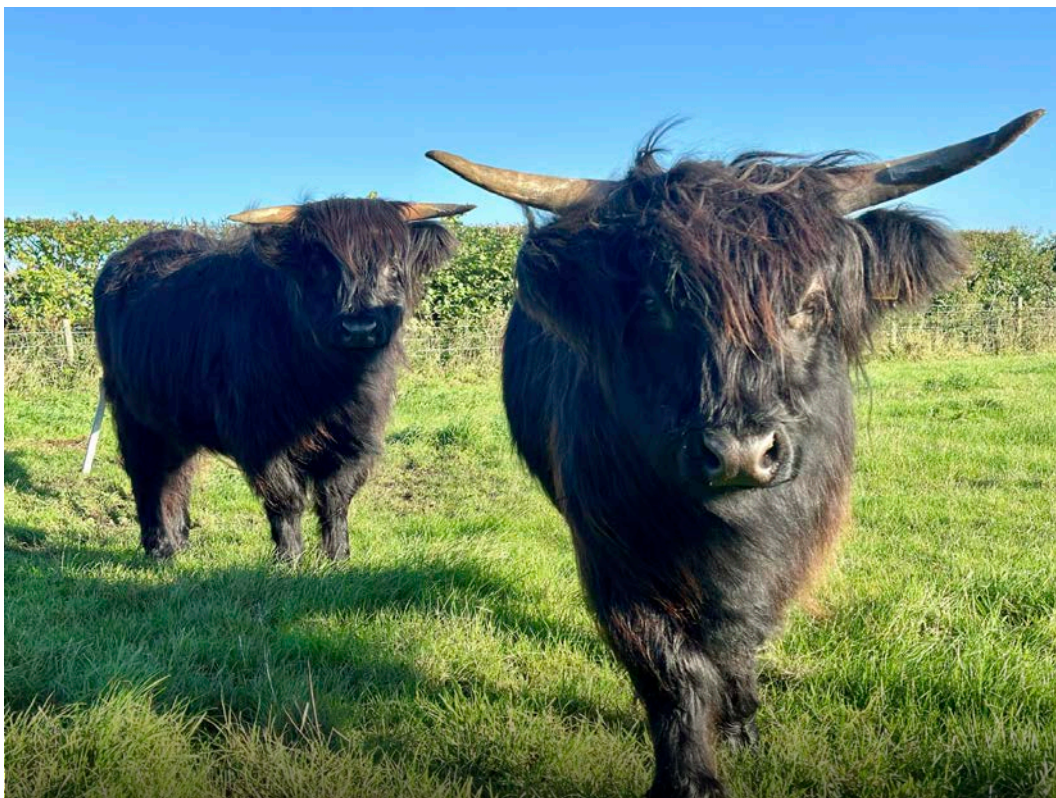
- 11% ABERZEUS Intermediate perennial ryegrass dip.
- 18% ABERGREEN Intermediate perennial ryegrass dip.
- 16% ABERSEVERN Late perennial ryegrass dip.
- 16% ABERBANN Late perennial ryegrass dip.
- 30% ABERGAIN Late perennial ryegrass tet.
- 9% ABERSPEY Intermediate perennial ryegrass tet.
- Available with 7.1% white clover
- Long-term dual purpose cutting and grazing ley
- Maximises mid-season yields for 1-2 high quality cuts
- Excellent mid and late season high D-value grazing.

14-16kg/acre 35-40kg/ha

X-Seed X-Tend 5 years +

- 22.5% ABERZEUS Intermediate perennial ryegrass dip.
- 13% ABERGREEN Intermediate perennial ryegrass dip.
- 11% ABERLEE Late perennial ryegrass dip.
- 23% ABERBANN Late perennial ryegrass dip.
- 22.5% ABERGAIN Late perennial ryegrass tet.
- 8% ABERTHAMES Late perennial ryegrass dip.
- Available with 6.6% white clover
- Long-term intensive grazing mixture
- Dense and persistent
- Exceptional early bite and mid/late season yield and quality.

14-16kg/acre 35-40kg/ha



RED CLOVER MIXTURES

X-Seed Ruby 3-5 years

- 23% ABERIMAGE Hybrid ryegrass tet.
- 15% ABERWOLF Intermediate perennial ryegrass dip.
- 23% ABERSPEY Intermediate perennial ryegrass tet.
- 15% ABERGAIN Late perennial ryegrass tet.
- 24% ABERCLARET Red clover.
- High-yielding ley with potential for five years due to new red clover breeding in ABERCLARET increasing persistency
- Highly productive with 2-3 cuts followed by grazing
- High-protein and high output; perfect for dairy, beef and lamb finishing.

12-15kg/acre 30-37kg/ha

Kings Protein Plus 2-3 years

- 15% LOFA Ryegrass plus*.
- 15% PERSEUS Ryegrass plus*.
- 15% ALAMO Italian ryegrass dip.
- 15% ASTONCRUSADER Hybrid ryegrass tet.
- 18% SENDERO Italian ryegrass dip.
- 22% Red clover blend.
- Three-year ley aimed at 3-4 huge cuts with increased protein and reduced nitrogen inputs
- Excellent drought and stress tolerance.

12-15kg/acre 30-37kg/ha

X-Seed Vesuvius, X-Seed Pearl, Kings Extra Cut and Kings Cut and Graze are all available with red clover.



Grass-Only Herb-Rich Sward

Grass-Only Herb-Rich Sward

3-4 years

20% ABERROOT Festulolium
18% ABERIMAGE Hybrid ryegrass tet.
25% ABERSPEY Intermediate perennial ryegrass tet.
25% ABERZEUS Intermediate perennial ryegrass dip.
4% COMER Timothy
4% LAURA Meadow fescue
4% MAXIMA Creeping red fescue.

- A grass-only mixture to then add herbs/legumes at a later stage
- Works well alongside our Grass-Free Herb-Rich Sward.

10-14kg/acre 25-35kg/ha

Grass-Free Herb-Rich Sward

3 years

20% Red clover blend
11% White clover blend
10% Alsike clover
6% Birdsfoot trefoil
30% Sainfoin
10% Chicory
5% Plantain
5% Burnet
1% Yarrow
2% Sheeps Parsley.

- A full, diverse mixture to add into grass mixtures
- Alternative options available including: no chicory, no sainfoin and fewer species mixtures.

3-4kg/acre 7.5-10kg/ha

Elite Herb-Rich Sward Mix 3 years

(CS-GS4) (SFI-SAM3/CSAM3)

15% ABERNICHE Festulolium
12% ABERIMAGE Hybrid Ryegrass tet.
20% ABERSPEY Intermediate perennial ryegrass tet.
20% ABERZEUS Intermediate perennial ryegrass dip.
4% COMER Timothy
4% LAURA Meadow Fescue
5% MAXIMA Strong creeping red fescue
3.5% White clover blend
10% Red clover blend
1.6% Birdsfoot trefoil
1% MILKY-MAX SAS PREMIUM Lucerne
1% PUNA II/ENDURE Chicory blend
1.2% TONIC Plantain
0.25% Burnet
1.25% Sheeps parsley
0.2% Yarrow.

- A diverse mixture utilising grasses, legumes and herbs
- Also available without red clover or chicory.

10-14kg/acre 25-35kg/ha

Elite Herb-Rich Sward is also available as free from red clover and chicory-free. Please discuss with your local advisor for the extensive list of all herbal leys we can offer, including bespoke mixtures and various grass-free options.



Elite Herb Rich Sward

Multi-Species Short-Term

1-2 years

(SFI-CSAM3)

30% KIRIAL Hybrid ryegrass
15% ALAMO Italian ryegrass dip.
35% BANNFOOT Hybrid ryegrass
12.5% GARANT Red clover
3% Crimson clover
3% Plantain
1.5% Burnet

- A short-term option offering a simple yet diverse mixture
- High red clover and crimson clover content to work alongside the grasses to enhance productivity.

12-14kg/acre 30-35kg/ha

Grass
Legumes
Herbs and Wildflowers

Multi-Species Cut and Graze

3 years

(SFI-CSAM3)

26% KIRIAL Hybrid ryegrass tet.
23% BANNFOOT Hybrid ryegrass tet.
8% SEAGOE Intermediate perennial ryegrass tet.
20% GALGORM Intermediate perennial ryegrass dip.
3% COMER Timothy
7% White clover blend
7% Red clover blend
3% Chicory
3% Plantain

- The perfect cutting and grazing multi-species mixture
- Produces a high yielding and high-quality forage source
- Also available with burnet instead of chicory.

12-15kg/acre 30-40kg/ha

Multi-Species Long-Term

4 years

(SFI-CSAM3)

11% SEAGOE Intermediate perennial ryegrass tet.
16% GALGORM Intermediate perennial ryegrass dip.
20% BALLINTOY Late perennial ryegrass tet.
17% GLENARM Late perennial ryegrass dip.
17% GRACEHILL Late perennial ryegrass tet.
4% COMER Timothy
8% White clover blend
1% Birdsfoot trefoil
4% Plantain
2% Burnet

- Aimed at longer term use – predominantly grazing
- Longer term species to last into a fourth year plus
- High quality multi-species sward.

12-15kg/acre 30-40kg/ha



Horse Paddock Mix

Haymax 4-5 years

30% GENESIS Early perennial ryegrass dip.
24% BOYNE Intermediate perennial ryegrass dip.
20% NIFTY Intermediate perennial ryegrass dip.
14% SWAN Late perennial ryegrass dip.
12% COMER Timothy.

- **Perfect for hay production for all livestock**
- **An all-diploid mixture which will help reduce wilting time**
- **Outstanding cutting yields with late season grazing.**

13-15kg/acre 32-37kg/ha

Haylage Mix 2-4 years

27% ALAMO Italian ryegrass dip.
21% BARMULTRA II Italian ryegrass tet.
27% KIRIAL Hybrid ryegrass tet.
25% SEAGOE Intermediate perennial ryegrass tet.

- **2-3 cuts per year followed by winter grazing**
- **Widely used for equine haylage production**
- **Leave until 50% headed for a coarse haylage mixture.**

13-15kg/acre 32-37kg/ha

Horse Paddock Mix 5 years +

15% AGASKA Intermediate perennial ryegrass dip.
30% BOYNE Intermediate perennial ryegrass dip.
25% SWAN Late perennial ryegrass dip.
20% MAXIMA Strong creeping red fescue.
10% COMER Timothy.

- **Resilient and hard-wearing horse and pony paddock mixture**
- **Provides early, mid and late season growth.**

13-15kg/acre 32-37kg/ha

Horse Paddock Elite 5 years +

40% GLENARIFF Intermediate perennial ryegrass dip.
15% GLENARM Late perennial ryegrass dip.
11% POLKA Strong creeping red fescue.
18% BARORLANDO Dwarf perennial ryegrass.
11% COMER Timothy.
5% BARIRIS Smooth stalked meadow grass.

- **Increased non-slip cushion from tractive species of grasses**
- **Inclusion of dwarf perennial for dense growth and weed suppression.**

13-15kg/acre 32-37kg/ha

Pig Grass Mix

We continue to support outdoor pig producers in the UK. We offer advice and supply of suitable grass-based mixtures ahead of their inclusion for outdoor pigs on farm.

This mix was developed through our experience with our pig producers to create a blend that offers both soil protection and grazing opportunities.

Contains: intermediate perennial ryegrass, late perennial ryegrass and strong creeping red fescue.

To discuss how this mix could work for you, please contact your local advisor.

Solar Park Mix

A robust mix that works for the creation of a new site or improvement of an existing one

Contains: creeping red fescue, chewings fescue, hard fescue, smooth stalked meadow grass, sainfoin, vetch, red clover, alsike clover, plantain, birdsfoot trefoil, common knapweed, ox-eye daisy, sheeps burnet and yarrow.

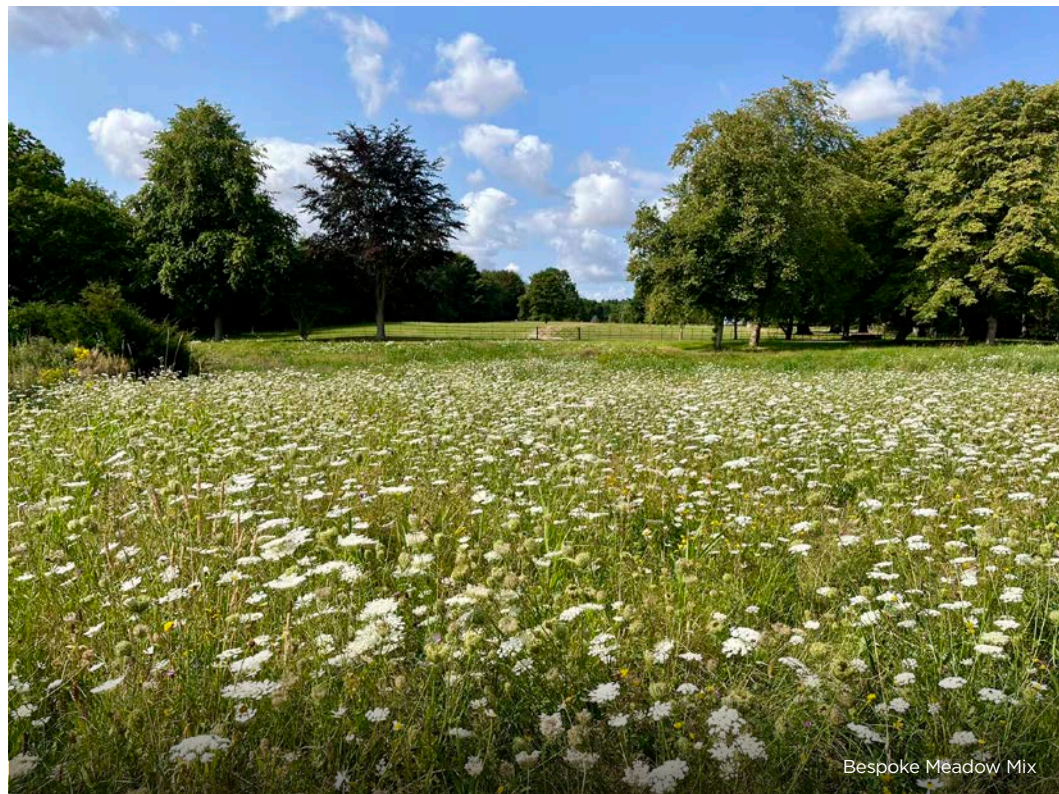
20kg pack

Meadow Mix

Designed for extensive grazing recreation projects

Contains: creeping red fescue, tall fescue, cocksfoot, festulolium, meadow fescue, timothy, smooth stalked meadow grass and crested dogstail.

35kg/ha 20kg/pack



Bespoke Meadow Mix

Vineyard & Orchard Mix

Providing a low-growing, hard-wearing sward whilst delivering for pollinators. Our extensive work on a range of vineyards and orchard projects have led to the development of this valuable mix

Contains: strong creeping red fescue, perennial ryegrass, birdsfoot trefoil, black medick and small-leaved white clover.

20kg pack

Sowing rate may vary depending on the particular use of these mixtures.

Please speak to your local advisor for guidance.



Kingscape

Kingscape

An easy-to-establish, hard-wearing option for lawn and general landscaping use

Contains: Amenity perennial ryegrass and strong creeping red fescue.

20kg pack

Kingsfine with Ryegrass

Ideal where a smart, hard-wearing lawn is required

Contains: chewings fescue, amenity perennial ryegrass, slender creeping red fescue and strong creeping red fescue.

20kg pack

Kings Low Maintenance

Perfect for amenity areas, such as car parks or lawns, which require very little mowing or maintaining.

Doesn't include ryegrass. Ideal to mix into wildflower mixture to help with establishment

Contains: chewings fescue, strong and slender creeping red fescue, smooth stalked meadow grass, hard fescue, crested dogstail and browntop bent.

20kg pack



Whether looking to extend the growing season, introduce a new break crop or improve soil health, forage crops continue to be a valuable element to your farm. Chosen with an emphasis on high productivity and yield, our range of forage crops are at the forefront of plant breeding and selection. Explore our selection below to find the best options to meet your livestock's needs.

Kale Rape

Exceptional yield potential, disease resistance and palatability.

Varieties available - Interval

Lucerne

A high-protein option with excellent drought tolerance due to its deep rooting characteristics. It holds the possibility of four cuts a year over a 3-5-year period.

Varieties available - Plato

Stubble Turnips

An economical and fast-growing forage source which can produce feed during the late autumn/winter months.

Varieties available - Samson, Barkant and Vollenda

Forage Rape

Fast-growing leafy crop with a high protein content. Longer lasting than stubble turnips and works well in sheep, beef and dairy production. Clubroot resistant varieties available.

Varieties available - Hobson, Sparta and Stego

Forage Rye

An excellent choice as a non-brassica option which provides very fast growth that can be cut or grazed. Helps to mop up residual nitrogen.

Varieties available - Traktor

Fodder Beet

An excellent forage source with the potential for very high yields; can be grazed or lifted and fed later. Very palatable and high energy.

Varieties available - Degas, Gahan, Blizzard, Robbos, Brick, Tadorne, Enermax, Magnum, Bangor, Jamon, Cagnotte and Monro

Kale

High-yielding and high-protein with a flexible utilisation period.

Varieties available - See kale section on page 39 for more information on varieties

Turnip Rape

Economical option with high sugar content, good winter hardiness and fast vegetative development making it perfect for grazing.

Varieties available - Jupiter

Fodder Radish

A low-cost, high-value crop offering quick growth and nutrient capture over the winter period.

Varieties available - See page 19 for a list of our radish varieties

FORAGE CROPS

It's important to choose the right forage crops that not only meet your feed requirements but also fit into your system and farming calendar. To help you decide on the right forage crop for you, we have put together the table below with key information.

Sowing period
 Utilisation period

Forage Crop Straight	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Sowing Rate/Ha	Fresh Weight Yield (t/ha)	DM Yield (t/ha)	Crude Protein (%)
Fodder Beet													100,000 seeds	80-100	15-18	12-13
Stubble Turnip													4-5kg	40-50	4-5.5	17-18
Swede													3-5kg	70-90	7-10	10-11
Kale													4-5kg	60-70	8-10	16-17
Kale Rape													2.5-5kg	25-30	5-8	19-20
Turnip Rape													6-10kg	35-45	4-5	18-19
Forage Rape													5-6kg	24-35	3.5-4	19-20
Main Crop Turnip													4-5kg	50-60	5.5-6	17-18
Forage Rye													160-185kg	22-26	5-6	10-11
Lucerne													20-30kg	35-40	10-12	17-22

FORAGE MIXTURES

Our forage mixtures enable you to enjoy the varied benefits of multiple forage species. In the Sustainable Farming Incentive options SAM2/CSAM2 Multi-species winter cover crop, can be grazed but you must ensure not to overgraze and keep it well established over the winter months.

KFORAGE1 Forage Root Mix 1 (SFI-SAM2)

Fast-growing, economical root crop
Contains: forage rape, kale rape and stubble turnips.

5kg/ha 5kg pack

Arable Silage Mixes

Provides a blend of energy, palatability and yield
Contains: peas and oats/barley.

180-220kg/ha 500kg pack

KGRAZE Post-Harvest Grazing Mix (SFI-SAM2/CSAM2/SOH4)

Prosper-treated kale

Bringing together the best of grazing and cover crops

Contains: forage rape, kale rape, tillage radish, turnip rape, berseem clover and stubble turnips.

8-10kg/ha 10kg pack



Post-Harvest Grazing Mix

Herbal leys: helping soil, yields, grazing systems and wildlife



Colin Fleming with some of his Highland cattle

Incorporating herb-rich leys and overwinter break crops into an arable operation is improving yields, boosting biodiversity and generating income for Fife-based Urquhart Farms.

When sixth-generation farmer, Colin Fleming, took on the tenancy of the 245-hectare farm in Dunfermline in 2017, he says the land was “inert”, with little organic matter.

The continuous winter wheat into spring barley with all straw removed had left the heavy ground lifeless with wheat yields at 4t/ha. In their first winter the farm was ploughed and sowed conventionally, with poor results.

As a new tenant, Colin knew he had to take action to improve soils and generate

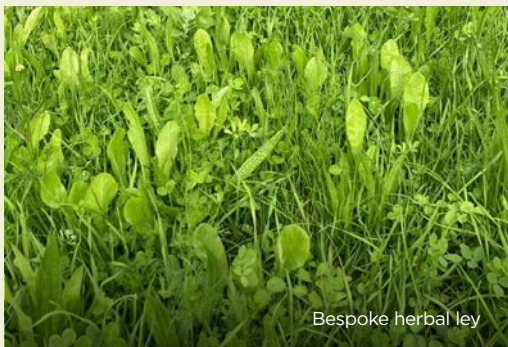
income, leading him to join the Scottish Agri-Environment Climate Scheme (AECS).

Colin enlisted his Frontier agronomist, Kevin Ross, and Kings technical advisor for Scotland, Alan Johnson, for help with compliant mixtures. “I had discussions with Kevin about the best way to improve the soils, and that’s when we looked at options such as green manure, wild bird mixes, grass strips and herbal leys,” explains Colin

“We would do it again, even without the money, due to the benefits we’ve seen.”

“Although initially the environment scheme was a means of generating additional revenue, the financial gains in terms of improved soil health have been significant.”

Colin and Kevin sampled the soil, allowing them to target variable rates of P and K. This has continued and regular samples are still taken every five years.



Bespoke herbal ley

In year one Colin applied thousands of tonnes of compost to build more organic matter. “I always wanted as little dependence on bought-in nitrogen as possible, so we have been trying to build plans around this.”

Although he has now exited AECS, he continues to implement the actions because of the benefits.

Changes

On hard-to-farm areas prone to waterlogging, Colin introduced species-rich grassland. He also incorporated cover crops such as phacelia and a clover mix to graze, and undersowed a herb-rich mix in spring oats which performed well.

This led to growing more herbal leys, with a third of the farm now sown with herb-rich mixtures and a plan to double stock numbers for grazing. The leys are based on a mix Colin found in a 100-year-old book, containing 22 species such as chicory, fennel and four different clover species – dubbed the ‘Urquhart mix’.

This has not only boosted soil health but also allowed Colin and his wife, Mairi, to add an income stream; introducing livestock in 2020. Numbers currently stand at 200 Blackface, Scotch Mule, and Texel-cross sheep and 20

Highland cattle, though the couple plan to increase sheep numbers to 500 and cattle to 50 as they expand the herb-rich leys.

Today, no land is left bare over winter, with cover crops helping retain nutrients. All land is minimally tilled too, with no ploughing or heavy cultivations.

Due to the historic requirement for insecticides on the farm, herbal leys have replaced oilseed rape as the break crop in the five-year rotation, with the rest of the land drilled with winter wheat, spring oats, and grazing mixes. The leys are split into 2.5ha paddocks, with sheep moved every three to four days. Cattle graze in the summer but return in winter to “tidy the fields”, grazing 5ha paddocks for two weeks at a time, supplemented with silage.

Benefits

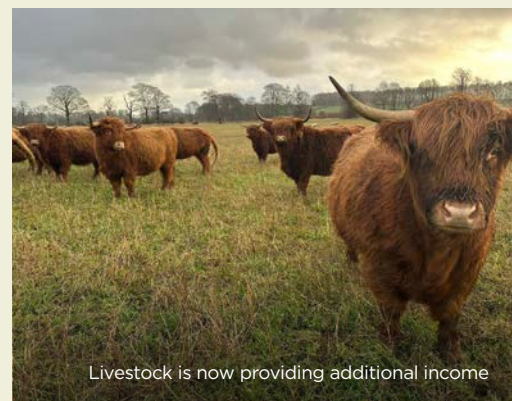
The results of Colin’s actions have been significant, with soil improvements leading to massive yield gains. “A soil analysis in 2023 showed how much we had improved in all areas, and we’ve now managed to bring all parts of the farm into production,” says Colin. “Our best wheat yields now average 9t/ha. Essentially, we’re getting more tonnes of grain from a smaller acreage, allowing us to gain an additional income from the stock.”

Colin has also reduced artificial fertiliser use by 40kg/ha, employing more green manures to fix nitrogen during the summer which is then retained by the winter crop.

“By improving organic matter, waterlogging has been eliminated.”

“During dry spells the herb-rich leys simply became “greener”. Biodiversity has also flourished, with pollinators, beneficials and birds such as curlews and woodcocks now common,” says Colin.

Livestock also thrives – cattle finish at 30 months entirely off grass sold direct via their online farm shop, and lambs gain 300g/day before being sold fat through United Auctions in Stirling.



Livestock is now providing additional income

Colin says the livestock have not suffered from worms or fluke thanks to the anthelmintic properties of the herbal leys, with a mineral lick the only supplement provided. “The health of the sheep on the latest herbal mix has been incredible.”

Colin believes the methods he has introduced are simply a return to traditional practices: “We are repeating what was practiced generations ago, taking a circular approach. We’ve spent nothing apart from seed and establishment to fatten stock. It all benefits the bottom line.”

MAIZE, SORGHUM AND MILLET

We offer traditional game cover options that you can rely on. Our range of maize, sorghum and millet are firm favourites with a broad choice of varieties available to give you the flexibility to create the right cover for you.

Please use the following tables, which include our recommended sowing windows and key product information to support you with your game cover seed choice.

Maize seed treatments

Following the extension of both Korit™ and Redigo M, we will continue to offer treated maize seed through the 2025 season.

 Sowing window



Codes	Crops	Optimum sowing window							Sowing Rate (kg/ha)	Pack Size (kg)	Key Information
		April	May	June	July	Aug	Sept				
MAIZE											
K20a	Poacher Maize								111,000 seeds/ha	45,000 seed packs	Our premium maize variety providing great early vigour and excellent standing power all season.
K20e	Kings Late Cob Maize								111-123,000 seeds/ha	50,000 seed packs	Ideal for when little or no mature cobs are desired. This limits potential pests whilst still maintaining all the standing power.
K20c	Kings Early Cob Maize								111-123,000 seeds/ha	50,000 seed packs	Early cob is an earlier maturing maize that will give great early to mid season cover.
K20d	Kings Maize								111-123,000 seeds/ha	50,000 seed packs	Our standard game maize variety offering a reliable and economical option.
SORGHUM											
K42e	Kings Sorghum Mix								25	25	This blend of dwarf and intermediate sorghum provides a varied structure and canopy. Suitable for southern, warmer climates.
K42b	Kings Dwarf Sorghum								25	25	Provides excellent winter-hardy cover and suits whole crops, game corridors and flushing points.
MILLET											
K21b	Poacher Red Millet								12.5	12.5	Matures later than white millet. As a straight, it will provide an attractive cover for game throughout the autumn.
K21c	Poacher White Millet								12.5	12.5	Flowering earlier and producing more seed then red millet - it is ideal when used as part of a millet mix.
K21d	Tanka Millet Mix								12.5	12.5	This blend of millets offers a high seed-bearing game cover option that has a much stronger structure due to its inclusion of reed millet.



Kales and other brassicas often allow a workable option of winter-hardy cover that can be established later in the summer or when grazing post-season is desired.

Strong establishment is vital to achieve longevity of brassicas, speak to your local advisor for advice on how to achieve a successful crop from the start.

Sowing window

Codes	Crops	Optimum sowing window							Sowing Rate (kg/ha)	Pack Size (kg)	Key Information
		April	May	June	July	Aug	Sept				
KALE											
K7	Coleor Kale								5	5	Our exclusive kale variety. Due to its hybrid vigour, it is quick to establish and exceptionally winter-hardy.
K6	Caledonian Kale								5	5	If brassicas are regularly in use, this winter-hardy clubroot-tolerant variety should be considered.
KGE1	Goldeneye Kale								5	5	A good alternative to, or companion for, Caledonian Kale. This is another clubroot-tolerant variety.
K9	1000 Head Kale								5	5	A taller variety which produces a good leafy canopy.
K10	Kale Blend								5	5	An exclusive blend of Coleor, Goldeneye and marrow stem kale. Offering a crop with mixed canopy heights.
ADDITIONAL BRASSICAS											
K116	Kings Kale Rape								7.5	25	Reliable brassica giving you a good winter-hardy driving and holding cover.
K15	Forage Rape								7.5	25	Reasonably winter-hardy, low-cost cover. Can be grazed as required at the end of the season.
KBARKA	Barkant Stubble Turnips								7.5	25	An economical option where large areas are to be planted up. Can provide excellent partridge driving cover and grazing potential.
KSILET	Siletina Oil Radish								7.5	25	A good choice for later planting where other options are running out and a quick cover is required, can also be grazed.
KUT1	Utopia								5	5	Provides a very quick-growing, winter-hardy cover.
K23	Mustard								7.5	25	Low-cost but highly flexible in terms of providing a wide range of cover types from a wide range of sowing dates.
KBRONS	Brons Brown Mustard								5	25	Much more tolerant of frost and snow than white mustard; it is worth mixing with Utopia to provide a diverse crop canopy.

Perennials are a great option when the reliability of the traditional crops is becoming a challenge. Lasting for up to 10 years, they make a fantastic addition to your rotation by reducing risk, workload and costs. Often overlooked as many require a nurse crop in their first year, these options can significantly improve the areas used for game.

If you take time to consider the best option for your requirements and set these crops up correctly, they will not disappoint.

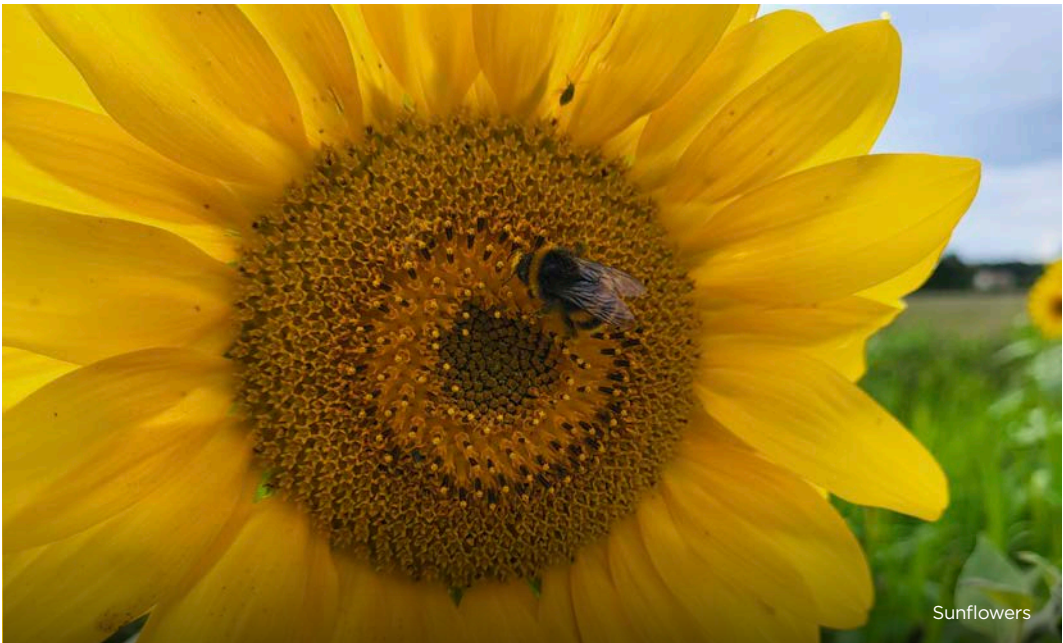
Sowing window													
Codes	Crops	Optimum sowing window							Sowing Rate (kg/ha)	Pack Size (kg)	Key Information		
		April	May	June	July	Aug	Sept						
PERENNIALS													
K40	Reed Canary Grass (RCG)									7	7	Exceptionally winter-hardy, RCG requires establishing in wide rows with a nurse crop in year one.	
K29	Tall Wheat Grass									10-15	25	Growing up to two metres tall, this is a good option as an early season wind break or to entertain young game birds.	
KPRYE	Perennial Rye									80	25	Provides explosive growth in the spring to provide early year cover that will stand into the new year but is not a driving cover.	
KSWFEN	Sweet Fennel									12	25	Offers tall, varied structure and is highly attractive to pollinators. This plant is strongly scented with a natural aniseed smell making it useful in high deer pressure areas.	
K58	Stand and Deliver (Perennial Chicory)									5	5	Requiring a nurse crop in year one, this winter-hardy plant is highly attractive to game in its second year. Lasting up to five years, it's a fantastic addition to kale or other perennials.	
K2	Artichokes									1235	25/1000	As a perennial choice, these will provide cover in year one and last for many years.	
K102	Poacher Leave-It									10	10	All you need to deliver nesting habitat, pollinator benefits, overhead canopy and driving cover. Contains: Gold of Pleasure, Coleor kale, Kings kale rape, lucerne, phacelia, reed canary grass, Stand and Deliver (perennial chicory), sweet clover, sweet fennel, reed millet, tall wheat grass and Utopia.	



ADDITIONAL GAME COVER

Outside of the traditional game cover straights, there are a broad range of options we can offer for more flexibility - perfect for those who would like to tailor their game cover or wild bird seed plots.

Careful consideration should be given when choosing seed rates and drilling depth for each element of your game cover. For help and advice to get the best from your crops, please get in touch.



Sowing window

Codes	Crops	Optimum sowing window							Sowing Rate (kg/ha)	Pack Size (kg)	Key Information	
		April	May	June	July	Aug	Sept					
ADDITIONAL GAME COVER												
K44/K44a	Sunflowers/ Dwarf Sunflowers									12.5	12.5	Providing a high level of feed around late September/October. Stalks stand well into the winter offering a tall but not dense cover.
K41	Sandoval Quinoa									10	10	Our exclusive Sandoval blend provides a wide range of seed maturity dates and impressive colours.
K4	Buckwheat									125	20	Rapid establishment, perfect adjacent to release areas where you wish to keep game entertained in the late summer/early autumn.
KGOP1	Gold of Pleasure									12.5	12.5	Ideal for poor soils or exposed sites where a highly nutritious seed supply is required. This is an excellent addition to a mix.
K19	Linseed									125	25	A versatile crop that delivers an abundance of winter-hardy feed supported by strong wiry stems. This is a great addition to a mix.
K30	Phacelia									7	10	Easy to grow and exceptionally striking; it will not provide winter cover but is a great crop to support a wide range of pollinators.
K47	Tic Beans									250	25	A useful break crop that can improve soil health and fertility whilst delivering a large volume of seed that is highly attractive to pheasants.
K48a	Spring Triticale									125	25	Simple to grow and well-suited to exposed locations, this cereal provides significant volumes of grain well into the hungry gap.
K147	Winter Recovery Mix									10	10	Whether you are patching up existing crops or planting into bare stubbles, this is a mix you should always have in stock. Contains Utopia, Carbon, Kings Kale rape, white mustard, turnip rape, fodder radish, tataricum buckwheat and brown mustard.

K147 Winter Recovery Mix is suitable for both Winter Bird Food option AB9 in existing Countryside Stewardship and the AHL2 Winter Bird Food action within the Sustainable Farming Incentive. Please see page 14 for further detail.

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your regional advisor or get in touch
with your account manager for more
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The advice and recommendations contained in this catalogue have been provided to the best of our ability. No liability will be accepted for any actions taken by growers as a result of this information. Frontier Agriculture's standard terms and conditions apply.

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