

Variety Guide 2020-21

Innovation for your growth



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your growth



The German international plant breeder DSV has been established for nearly 100 years, employs over 600 people globally and focuses on breeding and sales of agricultural and amenity crops – producing more than 51,000 tonnes of seed annually.

With subsidiaries across Europe, DSV maintains a global presence through shareholdings, marketing organisations and partnerships around the World.



DSV Headquarters Lippstadt, Germany

DSV UK breeding centre, Waddington

- 3 | DSV UK
- 4 | Cereals
 - Barley
 - Wheat
- 10 | Lupins
- 12 | Oilseed Rape
 - Winter Oilseed Rape
 - Clearfield Oilseed Rape
 - Spring Oilseed Rape
- 29 | Grass and Legumes
- 33 | Forage and Cover Crops
- 37 | Maize
- 40 | DSV UK Contacts



DSV UK

DSV has been operating in the UK for more than 40 years. The company breeds and sells many different agricultural crops including oilseed rape, winter wheat, barley, grasses, maize, cover crops and lupins.

DSV UK operates from its breeding and trials centre at Waddington, near Banbury in Oxfordshire. Waddington comprises c.50ha of land used to breed winter wheat and forage and for National List Trials of wheat and grass. It is also home to marketing and sales for our UK portfolio.

This year, two DSV OSR hybrids, DARLING and DAZZLER are newly listed on the Recommended List. These combine high gross outputs with TuYV (Turnip Yellow Virus), RLM7+ phoma stem canker and pod shatter resistances to deliver simple maintenance and low growing costs.

DSV also has a new high gross margin variety, VOLTAGE, in AHDB 2020/21 Candidate List trials. This combines agronomic features optimised for modern low-input production, which could make it a future game-changer for growers.

SENSATION, a new very early maturing winter barley with BYDV tolerance and good straw stability will also be introduced to the UK this year. This is already proving to be a very high performer in trials across Europe. Given its outstanding overall disease resistance scores, SENSATION could be a very popular option for UK growers increasingly worried about the threat of BYDV.

DSV UK claims the distinction of being the breeder of the UK's cleanest wheat variety, THEODORE. A group four variety, THEODORE joined the Recommended List last year with an 8.2 score for Septoria resistance, a 9 for Yellow Rust and a 7 for Brown Rust.

In 2020/21 we will offer the full range of DSV cover crop varieties as straights in the UK. These are bred to offer optimal performance with the focus on speed of growth, winter hardiness and nematode resistance.

Cereals

Lupins

Oilseed Rape

Grass and Legumes

Forage and Cover Crops

Maize

Cereals

The cereals breeding programme at DSV is designed to produce varieties for all market segments. With a number of scientific tools at DSV's disposal, the company is able to select lines, which combine high quality with a good disease resistance package without sacrificing yield. Our wheat programme is based in the UK whilst our barley programme is run from our breeding station in Germany.

DSV Winter Wheat Breeding

DSV UK prides itself in attention to detail with each breeding line receiving a tailored analysis package and trial network. Our conventional breeding programme allows potential varieties to be adjusted by selection of the best-performing sub-lines and we have a state-of-the-art molecular laboratory. Our laboratory carries out analyses of our breeding lines for trait-related markers such as disease resistance, bread-making potential and yield components. In addition, disease observation nurseries are positioned around the UK and abroad to capture any susceptibility to major diseases such as Septoria tritici and the rusts. DSV UK has a unique location away from the other wheat breeding companies and as such produces some of the best Septoria tritici resistance on offer.

Our replicated yield trials are situated throughout the UK as well as in neighbouring countries to give a strong indicator of yield potential on-farm across different soil-types and management practices.

When it comes to bread-making quality, DSV UK invests a lot of time evaluating the performance potential of grain and flour. Rheological tests are run to allow predictions to be made on the end-use of a breeding line and those destined for the bakery are test-baked.

The end-result of all this field and laboratory testing is a growing portfolio of unique winter wheat varieties for the British grower.

DSV Winter Barley Breeding

Our winter barley programme has been successfully developing varieties for Germany and France for a number of years. The screening nursery for diseases such as the rusts, rhynchosporium and net blotch is vast and includes a wide genetic base to allow novel sources of resistance to be identified. The barley is also rigorously tested in our virus nurseries in France. Once a breeding line has passed these selections, the line is targeted towards a specific end-use and is put into the yield trial network. Our breeding programme is now seeing potential in the UK market with the introduction of our first winter barley.

DSV UK is a forward-thinking company and as such takes part in many research projects. Some of these are in collaboration with academic research centres and other cereal breeders, whilst others are in-house projects. As new problems arise, new traits are developed along with diagnostic markers. The breeding team are continually screening novel as well as heritage material for new genetics and traits, which might be useful in modern elite varieties.

Dr. Matt Kerton, UK Cereal Breeder

SENSATION

Winter Barley



Type: 6 row, Conventional
Status: National List Trials

SENSATION is the first DSV 6 row winter barley variety to be launched in the UK. It contains two very important traits – Barley Yellow Dwarf Virus (BYDV) and Barley Yellow Mosaic Virus (BaYMV) Type 1 and Type 2 protection. This protection is important since seed treatments have no influence on these types of infection.

SENSATION is a very high yielding variety with good straw strength and high specific weight. It has performed well in both treated and untreated trials – with and without BYDV virus pressure. It is very early to head and to ripen and is listed as the earliest heading variety in France. Its speed of growth in the spring could make it particularly strong in black-grass situations where it quickly outgrows the weed.

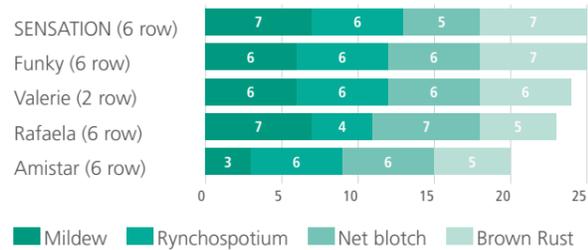
Disease Scores

SENSATION is currently in National List trials in the UK but has been vigorously tested in many countries including France, Belgium and Germany.

In recent DSV and independent trials, SENSATION has performed very well especially in untreated trials. It shows disease improvement compared to other varieties on the market, which carry the same traits. However, we have limited UK data at this stage.

Yield	104%
Untreated Yield	93%
Lodging	7
Height Untreated	104cm
Maturity	-3
Mildew	6
Yellow rust	8
Brown rust	8
Rhynchosporium	6
Net blotch	5
Specific weight	68.6kg/hl

Data Source:
 DSV UK interpretation of internal trials and Common Catalogue



Source: ARVALIS, 16 April 2020 (official scoring France).



BYDV and BaYMV Protection

BYDV is spread by two major aphids – the bird cherry oat aphid (*Rhopalosiphum padi*) and the grain aphid (*Sitobion avenae*). The former is easy to control using pyrethroid sprays but pyrethroid resistance has been confirmed in UK grain aphids by Rothamsted.

Varietal tolerance is especially valuable in winter barleys as the only cultural control method for BYDV is delaying drilling until the cold weather starts to kill the aphid population. This may be an option in winter wheat but drilling winter barley at this time can be extremely detrimental to yield.

 SENSATION carries the BYDV protection gene (YD2), which means plants may get infected but will tolerate the virus and grow normally. Although YD2 was first identified in the 1960s, the availability of neonicotinoid seed treatments has, until now, obscured its potential.

Whilst SENSATION does give protection against BYDV and BaYMV, an insecticide spray may still be necessary to ensure that the aphid population is contained.

 Type 1 BaYMV protection is now standard across most varieties. However, SENSATION is currently unique in carrying additional genetic protection against the threat of Type 2 BaYMV, which is now common in other areas of Europe.



THEODORE

Winter Wheat

Status: AHDB Recommended List – West 2020/21

THEODORE has gained a place on the AHDB Recommended List for the West region. THEODORE is a high yielding hard feed winter wheat with good disease resistance. It has outstanding yield, especially in untreated trials (90% of treated controls), which has outperformed all of the feed varieties (Gleam 84% and RGT Gravity 79%), making it a farmer-friendly variety to grow in the future with the ever-increasing reductions in available chemistry. This variety has performed very well in the trials network; particularly in the West country, with a treated yield of 102% of controls which makes it one of the highest yielding varieties for that area. THEODORE has the highest Septoria tritici score (8.2) of all the recommended varieties and controls, (DSV's other varieties also score highly for this disease resistance, making DSV a top choice for Septoria tritici). It also has the highest score for yellow rust (9) and a strong brown rust score of 7. Overall, it has a robust and all-round package for disease resistance. Standing at 82cm, THEODORE has good resistance to lodging in both treated and untreated plots, with no lodging seen in breeders' plots throughout its time in trialling.

Treated Yield	102%
Untreated Yield	113%
Protein	12.7%
Hagberg Falling No	307
Specific Weight	73.8
Height	82cm
Ripening	0
Yellow Rust	9
Brown Rust	7
Septoria tritici	8.2
Mildew	7

Data Source:
AHDB Recommended List – West 2020/21

DSV 318117 (CHAMPION)

Group 4 Feed Wheat – Hard

Status: National List Trials

DSV 318117 (CHAMPION) is a very high yielding hard feed wheat, which is well suited to a wide range of soil types and carries a strong disease resistance package.

With an overall yield of 12.13t/ha and untreated yield of 9.85t/ha, DSV 318117 (CHAMPION) was the highest yielding variety in NL1 last year. As a first wheat it yielded 12.17t/ha in those National List Trials and also performed very well as a second wheat with a yield of 12.04t/ha.

It has robust rust resistance markers and orange wheat blossom midge resistance. DSV's parent line DSV 20122 has been used to clean up the yellow rust issues associated with Reflection genetics. DSV 318117 (CHAMPION) also has very strong Septoria resistance, at least equal to KWS Siskin.

DSV 318117 (CHAMPION) has an outstanding overall profile for yield and, topping its first year of trials for agronomics, disease resistance and grain quality, it overcomes the 'yield/resistance' trade-off.

The latest sowing date for DSV 318117 (CHAMPION) is mid-February.

Treated Yield	Rotation 1: 103% Rotation 2: 109% Overall: 105%
Untreated Yield	111%
Protein	11.8%
Hagberg Falling No	223
Specific Weight	75.5
Ripening	-1
Yellow Rust	8
Brown Rust	7
Septoria tritici	6
Mildew	8
Orange Wheat Blossom Midge	Sm1

Data Source:
AHDB National Trials 2019
and DSV Internal Trials

* Untreated Yield – % of untreated controls.

The details of this product are for information only and are not an offer of sale.

Lupins

The protein queen is back

For a long time the white lupin disappeared from mainstream cultivation: the reason – the fungal disease anthracnose (*Colletotrichum lupini*). It appeared in the 1990s and the practical cultivation of grain legumes all but disappeared. With new low alkaloid and anthracnose-tolerant varieties, the ‘protein queen’ now returns to our fields. As an alternative indigenous protein crop, lupins can be used as a replacement for soya. Apart from their excellent intrinsic values, lupins have a very good position in crop rotations due to their nitrogen binding properties, soil loosening and phosphate mobilisation, delivering a very high ‘previous crop’ value. The white lupin is characterised by its high protein content and delivers the highest gross protein yield per unit area.

FRIEDA and CELINA are real protein wonders. In contrast to soya bean, they have much better climate adaptation, a lower heat requirement, and can therefore be grown over a wider area. Due to their anthracnose tolerance, these two white lupins provide farmers with a high degree of yield security. Their pronounced taproot makes them much less sensitive to summer drought.

Depending on the location, the yield potential is between 2 and 5.5t/ha. The average crude protein content is 32% with 86% dry matter. Inoculation with a rhizobia preparation is necessary.

Certified Seed is available for sowing 2021. Ask your merchant!

FRIEDA

A true protein bomb

- High yields of high-quality protein
- Very high yield security, as anthracnose tolerant
- Insensitive to summer drought due to pronounced taproot

CELINA

The protein queen

- TOP Earnings level
- High yields of high-quality protein, preferably for animal feed
- Domestic GMO-free protein source



How to grow lupins (suggestions):

Location requirements

- Cultivation possible with pH values up to at least 7.3
- Select fields with low weed potential

Sowing

- Sow as early as possible at soil temperatures of 4°C and above
- Depending on the region from the beginning of March to mid-April
- Turning tillage in autumn or spring in sufficiently dry soil conditions
- Mulch or direct sowing with intact soil structure

Sowing depth

- 3–4 cm
- Seed planted too deep is strongly yield-reducing (epigenetic germination)

Seeding rate

- 50–60 live grains/m² with row spacing from 12–25 cm

Seed treatment

- Inoculation with a rhizobia preparation for lupins is necessary

Seed

- Use only certified seed: Reproduction is forbidden by law, so that no seed with anthracnose infected farm-saved seed is sown

Harvest

- Harvest date: Usually mid August to mid September
- At a grain moisture content of 13–16%, the lupin is ready for threshing (grains rustle in the pods)
- Open the threshing concave wide, lowest possible drum speed (legume gearbox is advantageous)

Mechanical weed control

- Weeds must be controlled until the rows are no longer visible
- Use hoe and/or harrow
- Before emergence, ‘blind’ weeding 2–3 times (cotyledon stage of the weeds) may be required
- Drive slowly while harrowing (approx. 2km/h)
- No further weeding from emergence to the first pair of true leaves



Oilseed Rape

DSV have been breeding oilseed rape for over 50 years in Germany. Our breeders currently use two hybridisation systems MSL and Ogura to bring different characteristics and traits to our diverse range of oilseed rape varieties. Over the years we have developed the breeding to include traits such as TuYV resistance, HOLL, Clearfield®, clubroot resistance, improved vigour, high oil content and resistance to pod shatter.

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Variety	Status	Yield		Seed Quality	Winter Hardiness	Agronomic Characteristics								Disease Resistance					
		Gross Output	Seed Yield	Oil Content		Autumn Vigour	Spring Vigour	Plant Height	Earliness of Flowering	Earliness to Maturity	Resistance to Lodging	Stem Stiffness	Resistance to Pod Shatter	Light Leaf Spot	Stem Canker	Verticillium wilt	TuYV	Clubroot	
Hybrid	VOLTAGE	AHDB Candidate List 2020/21	105% 108% (E/W) 100% (N)	105% 107% (E/W) 100% (N)	45.5%	High	High	High	158cm	6	5	8	8		7	4		✓	
	DAZZLER	AHDB Recommended List 2020/21	104% (E/W)	103% (E/W)	46.2%	High	High	High	155cm	7	6	8	9	High	6	8 RLM7+		✓	
	TEMPTATION	AHDB Recommended List 2020/21	103% 103% (E/W) 98% (N)	102% 102% (E/W) 97% (N)	46%	High	High	High	154cm	6	5	8	7		6	5	High	✓	
	DARLING	AHDB Recommended List 2020/21	103% (E/W)	104% (E/W)	46%	High	High	High	160cm	7	5	8	8	High	6	8 RLM7+	High	✓	
	DUPLO	Common Catalogue	105% 108% (E/W)	104%	45.6%	High	High	High	170cm	6	5	7	7	High	6	8 RLM7+		✓	
Clubroot	CROCODILE CR	AHDB Recommended List 2020/21	105%	106%	45%	High	High	High	153cm	6	5	8	8		6	4			✓
Clearfield®	PHOENIX CL	Common Catalogue	106%	106%	43.6%	High	High	High	147cm	5	7	8	8	High	6	6			
	PLURAX CL	Common Catalogue	104%	103%	44.6%	High	Medium	High	134cm	6	6	8	9		7	6	High		
	SIMPLEX CL	Common Catalogue	106%	104%	44.6%	High	Medium	Medium	164cm	4	6	8	8	High	6	9 RLM7+			

Key to Oilseed Rape Variety Traits

We have developed a series of simple icons to help growers identify, at a glance, the different key characteristics of our winter oilseed rape varieties. These are listed below with a brief explanation. Some traits are shared by almost every variety we list, for example, their superior primary response and early vigour shown over the first 45 days – as in INCENTIVE 45. Others are unique to different varieties and result from the skilled hybrid breeding for which DSV is renowned, for example, the varieties in our expanding Clearfield® portfolio and the latest PNN Triple and Quad Layered varieties. However, for full details and performance data you should refer to the detailed product descriptions and data tables.



A PNN Variety

Bred to include specific growth characteristics that deliver reliable establishment and consistent high performance year after year.



N-Efficiency

Bred to ensure you get the highest possible response to Nitrogen fertilisers so every kg applied works as hard as possible to produce yield with minimum waste.



A Triple Layered PNN Variety

Unique three-way disease resistance and yield protection against Phoma Stem Canker, Light Leaf Spot, Turnip Yellow Virus and Pod Shatter providing new levels of security in OSR production.



A Clearfield® Variety

Resistant to Imazamox-based herbicides allowing you to safely control the majority of broadleaf weeds and volunteer cereals commonly found in UK crops.



A Quad Layered PNN Variety

Builds on our Triple Layered package of agronomic features by adding a further layer of management benefits in the shape of verticillium wilt tolerance, clubroot resistance or Clearfield® technology.



RLM7+ Disease Resistance

Multi-gene resistance to phoma stem canker plus light leaf spot – the most common diseases of oilseed rape in the UK.



High Oil Content

High oil content ensuring growers receive the maximum potential oil bonus at harvest.



Superior Primary Response

Outstanding vigour in the first 45 days combined with deep tap root development to provide the best foundation for yield and protection against pest and disease threat.



Pod Shatter Resistance

Minimises seed shed and loss in later stages of growth and at harvesting making it particularly useful when weather conditions are poor or in late seasons.



Suitable for Min-till or No-till

Optimised for strong establishment, exceptional performance and consistent gross output delivery in reduced cultivation systems.



Turnip Yellow Virus Resistance

Resistance to the growing threat of TuYV now endemic across the UK and potentially reducing oil content and yields by up to 20%.



Verticillium Wilt Tolerance

Protection against yield loss from this Europe-wide disease that is difficult to identify, has no effective agronomic option and causes premature plant death.



Clubroot Resistance

Effective resistance to all common forms of clubroot, safeguarding yield in affected areas.



Hybrid breeding to improve resistance and control costs

DSV leads the way in developing OSR varieties that offer increased disease resistance and agronomic performance.

Triple and Quad Layered OSR Explained

Triple Layered varieties

Triple Layered oilseed rape varieties from DSV provide growers with new levels of crop security by combining optimum levels of disease resistance and agronomic characteristics to produce consistent high outputs without the need for costly inputs.

Developed as a direct result of the neonicotinoid ban and the need to move towards less intensive and more environmentally friendly production methods, DSV Triple Layered oilseed rape takes as much of the guesswork out of growing the crop as possible.

Every Triple Layered variety has unique three-way disease resistance and yield protection built in making them a genuine industry first.

Layer 1: RLM7+ Disease Resistance

Multi-gene resistance to phoma stem canker and light leaf spot – the most common diseases of oilseed rape in the UK.

Layer 2: Turnip Yellow Virus Resistance

Resistance to the growing threat of TuYV now endemic across the UK and potentially reducing oil content and yields by up to 20%.

Layer 3: Pod Shatter Resistance

Minimises seed shed and loss in later stages of growth and at harvesting making it particularly useful when weather conditions are poor or in late seasons.

Furthermore, our new Triple Layered varieties are built on DSV's long established genetic foundation of exceptional early vigour to drive establishment and allow crops to grow through disease and pest threat. A deep taproot lays the foundation for high yields and optimum plant architecture to capture as much light as possible.

They are the most 'self-contained' oilseed rape varieties available and the closest you'll get to a 'drill and forget' production system for this uniquely valuable crop.

- Full disease resistance package reduces the need for costly agronomic interventions
- Advanced plant physiology provides reliable establishment, added resilience and consistent yield delivery
- Simplified management and greater peace of mind
- Reliably high oil content maximises crop value



Quad Layered varieties

Building on the success of our Triple Layered oilseed rape varieties, DSV Quad Layered varieties are now being introduced adding even greater production resilience and reliability for growers.

Depending on the variety and its application, the fourth layer can vary to include characteristics such as Verticillium wilt tolerance, clubroot resistance or Clearfield® technology added to the mix.

There are currently two new DSV Quad Layered varieties entering the UK testing system.

The first is a high output hybrid oilseed rape featuring multi-gene phoma stem canker, TuYV, pod shatter and clubroot resistances.

With clubroot an increasing problem in the Borders and Scotland this will be a variety particularly relevant to the North of the country, although there are signs that the disease is becoming an issue across the UK now.

The second Quad Layered variety just entering the trials system is a Clearfield® variety, which features phoma stem canker resistance together with TuYV and pod shatter resistance.

This will sit well alongside the other layered varieties in the Clearfield® portfolio and the incorporation of TuYV resistance will reduce dependency on insecticides to control the vector of what is becoming a significant disease in the UK.

VOLTAGE

Hybrid Oilseed Rape



Status: AHDB Candidate List 2020/21

VOLTAGE has been specifically bred to deliver high yields in the UK's range of varying soil types and mild, yet maritime climate.

VOLTAGE was tested vigorously across a network of DSV trials in the UK before it was entered into National List trials. It was our leading variety across all trial sites and at one site it achieved a yield of over 7.4t/ha.

VOLTAGE achieved its 'Number One Gross Output Candidate' status in one of the toughest growing seasons for oilseed rape in recent memory. Its powerful autumn vigour and added Turnip Yellow Virus (TuYV) protection has ensured that Voltage recorded impressive yields throughout the trials network.

Recent tests carried out in conjunction with NIAB and the University of Warwick suggest over 90% of UK oilseed rape is infected by TuYV and yield losses can reach as high as 30%. The Myzus persicae aphids that transmit the virus are increasingly difficult to control and AHDB research shows that both their numbers and the proportion containing the virus are rising.

A typical DSV 'stands and delivers' variety with scores of 8.3 for Lodging, 8.0 for Stem Stiffness and a relatively compact height of 158cm, makes VOLTAGE easy to harvest with the resilience to perform well in UK growing conditions. VOLTAGE is medium-to-late maturing with big leaves that cover the ground quickly – typical of MSL types, and is adaptable to being planted outside the normal drilling window to help combat the growing pressure of flea beetle.

A Gross Output of 108.1% of control in the key East and West region, Oil Content of 45.5%, TuYV protection plus the highest Light Leaf Spot score of all new candidates, makes it a near perfect option for growers! VOLTAGE combines the very best features of current high performing oilseed rape varieties from production and economic viewpoints and puts them in a single package that has genuine UK-wide versatility.

Gross Output	105% 108% (E/W) 100% (N)
Seed Yield	105% 107% (E/W) 100% (N)
Oil Content	45.5%
Winter Hardiness	High
Autumn Vigour	High
Spring Vigour	High
Plant Height	158cm
Flowering	6
Maturity	5
Lodging	8
Stem Stiffness	8
Light Leaf Spot	7
Stem Canker	4

Data Source:
AHDB Candidate List 2020/21
and DSV Internal Trials.

DAZZLER

Hybrid Oilseed Rape



Status: AHDB Recommended List 2020/21

DAZZLER is a new triple layered variety from DSV that has the highest Gross Output and Oil Content data for the East / West Regions on the latest Recommended List.

The three outstanding traits of DAZZLER are its TuYV resistance, pod shatter resistance and the RLM7+ for multi-gene resistance. It also has excellent Autumn Vigour.

Growing DAZZLER can be a step forward in the direction of more environmentally friendly crop production methods requiring less costly inputs. DAZZLER has high gross output (104%) and impressive Oil Content (46.2%). It has a good Resistance to Lodging (8) and a Stem Stiffness score of 9. It is a medium height variety standing at 155cm.

DAZZLER's spring vigour is its major selling point. It is one the fastest growing varieties in our portfolio. As temperatures begin to rise, DAZZLER is quick off the block ahead of its competitors.

Gross Output	104% (E/W)
Seed Yield	103% (E/W)
Oil Content	46.2%
Winter Hardiness	High
Autumn Vigour	High
Spring Vigour	High
Plant Height	155cm
Flowering	7
Maturity	6
Lodging	8
Stem Stiffness	9
Light Leaf Spot	6
Stem Canker	8 RLM7+

Data Source:
AHDB Recommended List 2020/2021
and DSV Internal Trials.

TEMPTATION

Hybrid Oilseed Rape



Status: AHDB Recommended List 2020/21

The first DSV variety to carry the TuYV protection, TEMPTATION is one of the few varieties to be recommended for the whole of the UK demonstrating the great flexibility of performance from this variety.

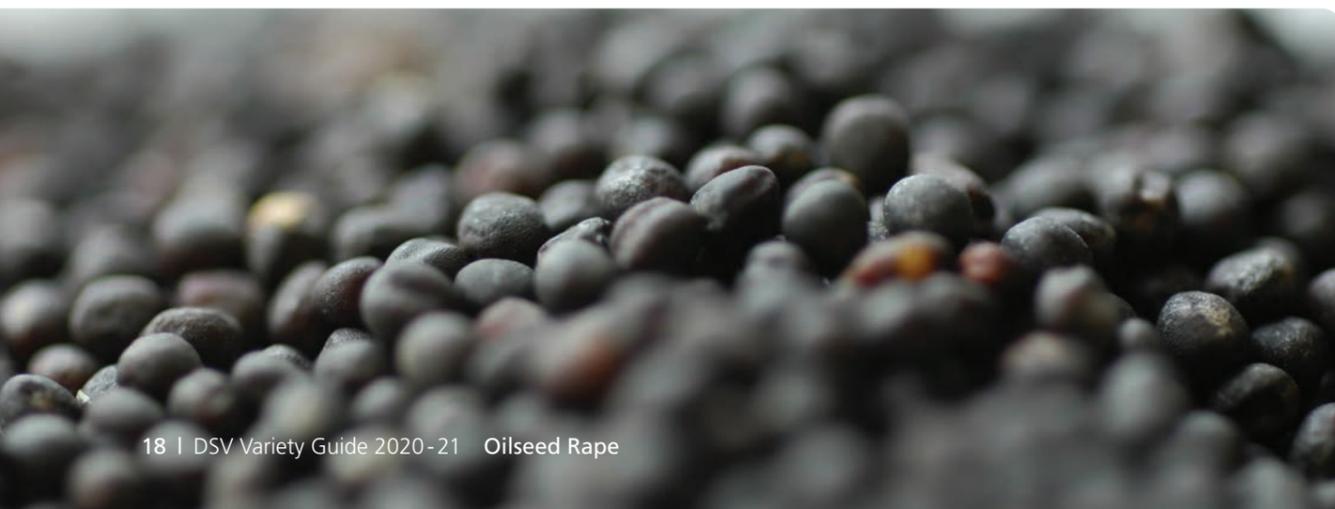
TuYV has been a well-known threat to oilseed rape for over 30 years throughout Europe, where it is known that this disease can cause a considerable loss of yield. Spread by the peach potato aphid (*Myzus persicae*) indications are that losses can be as high as 20%. DSV have been breeding varieties with resistance to TuYV for over 10 years, and due to the reduction in availability and restrictions in the use of key plant protection products, genetic protection has become all the more valuable.

TEMPTATION delivers a high and consistent yield and an impressive Oil Content of 46%. While not a problem in the last year, TEMPTATION has strong Winter Hardiness reducing the impact of late frosts and snow cover. Its aggressive Autumn and Spring Vigour is very noticeable both in official trials and on farm.

Independent trials show that TEMPTATION has strong tolerance to Verticillium wilt. It also has good field disease resistance and has proven to be robust in UK conditions, with the top untreated performance in official trials. TEMPTATION is a high performance variety with low input management potential.

Gross Output	103% (UK) 103% (E/W) 98% (N)
Seed Yield	102% (UK) 102% (E/W) 97% (N)
Oil Content	46%
Winter Hardiness	High
Autumn Vigour	High
Spring Vigour	High
Plant Height	154cm
Flowering	6
Maturity	5
Lodging	8
Stem Stiffness	7
Light Leaf Spot	6
Stem Canker	5

Data Source:
AHDB Recommended List 2020/21.



DARLING

Hybrid Oilseed Rape



Status: AHDB Recommended List 2020/21

DARLING is one of DSV's flagship triple-layer varieties, combining top yields with three important traits from DSV to offer growers increased agronomic flexibility.

One of its particularly noticeable features is its outstanding Autumn Vigour as well as having Turnip Yellow Virus (TuYV) Resistance, Pod Shatter Resistance, and the RLM7+ for multi-gene resistance to phoma stem canker. It is one of the first varieties to have these pioneering three traits stacked together.

Developed as a direct result of the Neonicotinoid ban and the need to move towards less intensive and more environmentally friendly production methods, DSV triple-layer oilseed rape takes as much of the guesswork out of growing the crop as possible.

DARLING has shown that it can deliver high Gross Output (103%) and high Oil Content (46.0%), overtaking many other varieties currently on the AHDB Recommended List. It also has good agronomic features with an upright canopy that demonstrates no weakness to lodging (8) and a strong Stem Stiffness score (8) from a medium – tall variety, standing at 160cm. DARLING has performed well in Verticillium wilt trials in the UK.

Gross Output	103% (E/W)
Seed Yield	104% (E/W)
Oil Content	46%
Winter Hardiness	High
Autumn Vigour	High
Spring Vigour	High
Plant Height	160cm
Flowering	7
Maturity	5
Lodging	8
Stem Stiffness	8
Light Leaf Spot	6
Stem Canker	8 RLM7+

Data Source:
AHDB Recommended List 2020/21 and DSV Internal Trials.

DUPLO

Hybrid Oilseed Rape



Status: Common Catalogue

DUPLO is one of DSV's flagship triple-layer varieties, combining top yields with three important traits from DSV. Recently added to the Common Catalogue, DUPLO has been fast tracked to the UK market due to its exceptional vigour. DUPLO has the highest vigour of any of DSV's Triple Layered varieties in both autumn and spring. DUPLO has performed well all across Europe and the whole of the UK in all conditions, proving it is a very robust variety.

Features of particular note are its outstanding autumn vigour and DSV triple-layer protection of Turnip Yellow Virus (TuYV) resistance, pod shatter resistance, and the RLM7+ for multi-gene resistance to phoma stem canker. DUPLO is part of the next generation of DSV varieties, which offer unique three-way disease protection and stability of accompanying yields.

Developed as a direct result of the Neonicotinoid ban and the need to move towards less intensive and more environmentally friendly production methods, DSV Triple Layered oilseed rape takes as much of the guesswork out of growing the crop as possible.

Gross Output	105%
Seed Yield	108% (E/W)
Oil Content	45.6%
Winter Hardiness	High
Autumn Vigour	High
Spring Vigour	High
Plant Height	170cm
Flowering	5.9
Maturity	5
Lodging	7
Stem Stiffness	7
Light Leaf Spot	6
Stem Canker	8 RLM7+

Data Source:
National List Trials 2019/20 and Common Catalogue

CROCODILE CR

Hybrid Oilseed Rape



Status: AHDB Recommended List 2020/21

Not only has CROCODILE CR closed the gap between clubroot resistant varieties and 'normal' varieties, in many cases it is actually out-yielding them! As clubroot infection rates appear to indicate that the disease is continuing to spread south, CROCODILE CR offers growers a valuable, high yielding option as part of their crop rotation on land where common strains of clubroot are known to be an issue.

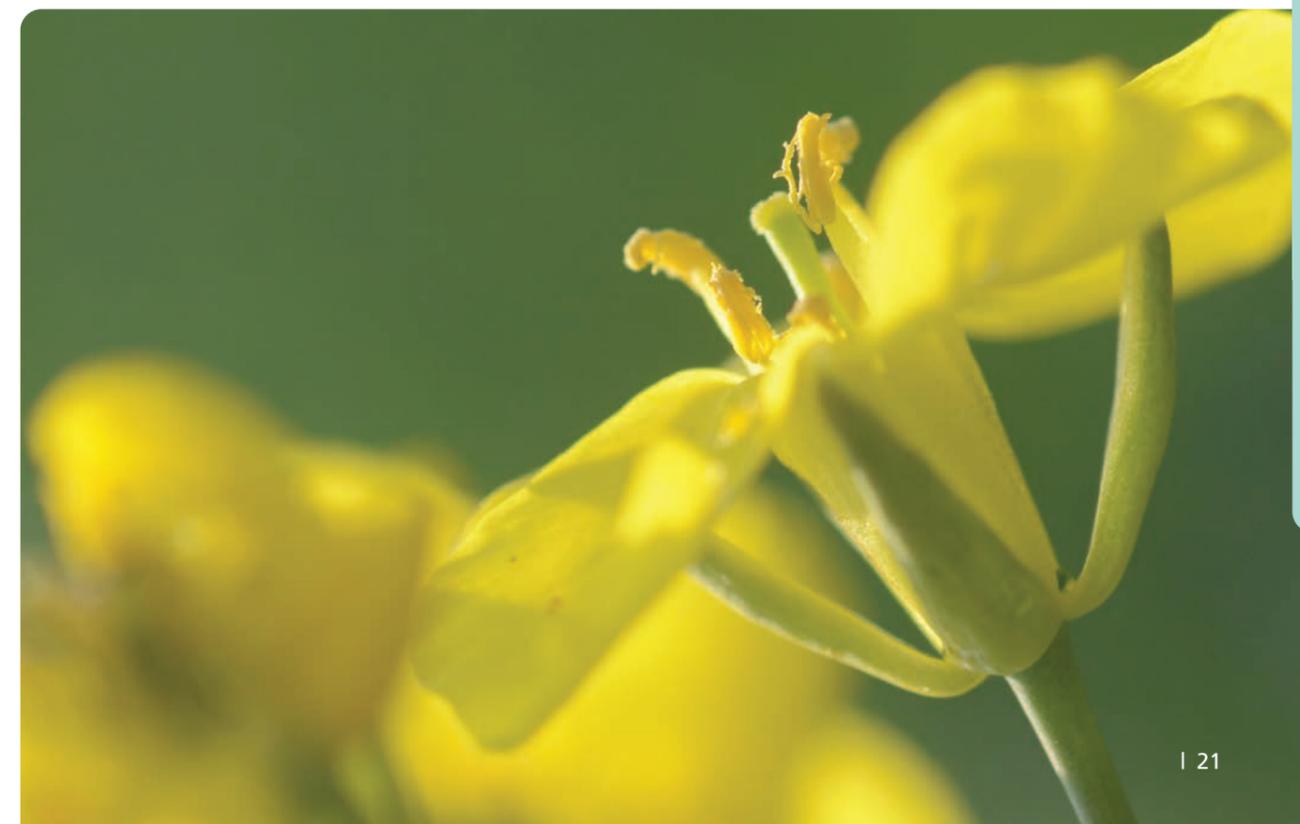
CROCODILE CR is now recommended for use on clubroot infected land. It is one of the highest yielding varieties across the AHDB List (Gross Output – 105% and Seed Yield – 106%) also scoring well for Oil Content (45.0%). It has a strong score for Light Leaf Spot (6) and good standing power.

At DSV, we always aim to deliver yield with traits, rather than traits at the expense of yield. Clubroot has become more apparent on farm during the last five years, with closer rotations, meaning it is often costly and hard to control. CROCODILE CR may, however, be infected by certain strains and infections that have been reported in some fields. It is important that growers protect the clubroot genetics by only planting the variety where clubroot is known to be an issue.

Due to the rapid development of the lower branches of CROCODILE CR, DSV recommends a sowing rate of 40 – 50 seeds per m² and a PGR in spring is only required on fertile sites to ensure efficient harvestability. Its vigorous autumn growth allows it to be drilled over a broad range of dates without any issues.

Gross Output	105%
Seed Yield	106%
Oil Content	45.0%
Winter Hardiness	High
Autumn Vigour	High
Spring Vigour	High
Plant Height	153cm
Flowering	6
Maturity	5
Lodging	8
Stem Stiffness	8
Light Leaf Spot	6
Stem Canker	4

Data Source:
AHDB Recommended List 2020/21.



Clearfield® Oilseed Rape



The Clearfield® Production System was designed as a risk management tool for oilseed rape that combines hybrid seed varieties and high quality BASF herbicides to combat many of the key issues OSR growers face.

The system allows you to adopt a 'wait and see' approach. The post emergence timings for the Clearfield® product range (Cleravo® and Cleranda®) allow you to wait and see if you have a healthy established crop before applying your herbicide programme, enabling you to manage cabbage stem flea beetle risk.

Crucially, Clearfield® is highly effective at controlling those difficult weeds shown to contain erucic acid such as charlock, runch and hedge mustard, as well as volunteer OSR, allowing you to remove a potential source of erucic acid contamination from your crop.

What's more, these varieties are strong establishing and offer a rapid start. They're tolerant of sulfonylurea (SU) soil residues, which may be present where SU herbicides were used in previous cereal crops. This enables them to get away quicker and achieve a high vigour, a key factor in helping defend against difficult autumn issues e.g. dry seedbed and cabbage stem flea beetle attack.

Clearfield, Cleravo and Cleranda are registered trademarks of BASF. Cleravo contains imazamox and quinmerac. Cleranda contains imazamox, quinmerac and metazachlor. Use plant protection products safely. Always read the label and product information before use. For further product information including warning phrases and symbols, refer to agricentre.basf.co.uk.



PHOENIX CL

Clearfield® Oilseed Rape



Status: Common Catalogue/Clearfield® Variety

PHOENIX CL has been bred and selected to amalgamate DSV's pioneering genetics with the latest Clearfield® hybrid technology. It has the second highest scores for both Gross Output and Seed Yield on the Clearfield® list.

PHOENIX CL is DSV's biggest selling Clearfield® variety worldwide. It has been widely trialled in the UK and has now been listed for more than two years. It shows outstanding autumn vigour producing robust plants with deep tap roots. It has outstanding Seed Yield of 106% with Oil Content that is consistently strong among Clearfield® varieties. PHOENIX CL has a benchmark disease performance with a 6 for Light Leaf Spot and a 6 for Stem Canker but it also displays enhanced Pod Shatter Resistance offering extra flexibility at harvest. PHOENIX CL is suited to minimum or no-tillage systems

PHOENIX CL is a typical DSV variety with the '45 Days' autumn vigour and good spring development which suits most soil types, giving you flexibility in later sowing if adverse weather conditions occur. Due to the rapid development of the lower branches of PHOENIX CL DSV recommends a sowing rate of 30 – 40 seeds/m² and a PGR in spring to ensure efficient harvestability.

Gross Output	106%
Seed Yield	106%
Oil Content	43.6%
Winter Hardiness	High
Autumn Vigour	High
Spring Vigour	High
Plant Height	147cm
Flowering	5
Maturity	7
Lodging	8
Stem Stiffness	8
Light Leaf Spot	6
Stem Canker	6

Data Source:
NIAB TAG 2019 Data: DSV Extensive Trials
UK – Disease Scores

Close the Clearfield® yield gap with PHOENIX CL

Agronomists like the science of Clearfield® hybrid OSR varieties:

- Inbred tolerance to Clearfield® herbicides, which enable control of a broad spectrum of problem weeds including cruciferae, charlock, runch and hedge mustard.
- Outstanding early establishment and vigour that extends planting windows.

Growers love the results:

- Simplified rotation with no major change in agronomic practices.
- Potential for input savings.
- Evidence of increased yields and profitability.



Innovation for your growth

Clearfield is a registered trademark of BASF. Use plant protection products safely. Always read the label and product information before use. For further information including warning phrases and symbols, refer to agricentre.basf.co.uk.

PLURAX CL

Clearfield® Oilseed Rape



Status: Common Catalogue/Clearfield® Variety

PLURAX CL is one of the latest Clearfield® winter oilseed rape varieties released by DSV. PLURAX CL has a very high Gross Output and the highest Oil Content of all the Clearfield® varieties. It is one of the few varieties which has been tested across seven sites over three years. It has been bred and selected to bring together DSV's pioneering genetics with the latest Clearfield® hybrid technology.

PLURAX CL is a step forward in Clearfield® genetics as it has been specifically bred to have a strong tolerance to Verticillium wilt and has proven itself in recent ADAS trials. It is a new generation hybrid with high yields and outstanding levels of oil content. In NIAB trials from 2019 PLURAX CL has produced a very high seed yield and the highest Oil Content of 44.6%. It is quick to establish in the autumn putting down a robust rooting system. Its stem stiffness and resistance to lodging are two of its key strengths. The NIAB data for 2019 put PLURAX CL as the most vigorous variety in the autumn, highlighting PLURAX CL's autumn vigour – being on par with market leading varieties – for making maximum use of the first 45 days of growth after drilling, where OSR plants lay the foundations for future yields. PLURAX CL has a strong agronomic package with a score of 7 for Light Leaf Spot and 6 for Stem Canker.

PLURAX CL is suitable for sowing in a range of soil types and conditions, due to its autumn vigour and the branching capacity of the plant. DSV would recommend planting this variety at 50 seeds/m².

Gross Output	104%
Seed Yield	103%
Oil Content	44.6%
Winter Hardiness	High
Autumn Vigour	Medium
Spring Vigour	High
Plant Height	134cm
Flowering	6
Maturity	6
Lodging	8
Stem Stiffness	9
Light Leaf Spot	7
Stem Canker	6

Data Source:
NIAB Clearfield® Trials 2019 and extensive DSV UK trials

SIMPLEX CL

Clearfield® Oilseed Rape



Status: Common Catalogue/Clearfield® Variety

SIMPLEX CL is DSV's newest Clearfield® variety. It contains three very important traits – Pod Shatter Resistance for added protection at harvest, the RLM7 gene for resistance to phoma stem canker and Clearfield® technology.

SIMPLEX CL is a high yielding variety with an impressive Oil Content. It has been trialed and tested in the UK for two years. It has also performed well in the latest NIAB TAG trials for 2019.

SIMPLEX CL has high levels of vigour in the autumn and grows away quickly in the spring. SIMPLEX CL has very good resistance to lodging compared to some of its competitor Clearfield® varieties.

It is a very vigorous variety with a superb agronomy package. In times of drought, due to its vigorous growth, it has potential to compensate with assimilation from its leaves and stems. SIMPLEX CL offers medium maturity, a stiff stem and high scores for disease.

Its disease package offers robust resistance to a range of diseases including a 6 for Light Leaf Spot – an impressive score amongst the Clearfield® varieties and 9 for Stem Canker. In recent tests it has also performed well for Verticillium wilt resistance. DSV's breeders class it as a 'stay green' variety meaning where many varieties' stems will discolour at maturity SIMPLEX CL will stay green. It has also been noted as a variety which tolerates late frosts better than some other varieties.

Gross Output	106%
Seed Yield	104%
Oil Content	44.6%
Winter Hardiness	High
Autumn Vigour	Medium
Spring Vigour	Medium
Plant Height	164cm
Flowering	4
Maturity	6
Lodging	8
Stem Stiffness	8
Light Leaf Spot	6
Stem Canker	9 RLM7+

Data Source:
DSV Trials – 2 Years' Data

DSV 509 (MATRIX CL)

Clearfield® Oilseed Rape



Status: Common Catalogue/Clearfield® Variety

DSV 509 (MATRIX CL) is a true gem in DSV's portfolio. A long awaited variety which combines complex trait stacking with high yields. DSV 509 (MATRIX CL) is the first variety to stack four traits together which include Pod Shatter Resistance, RLM7+ Disease Resistance, TuYV protection and Clearfield® technology.

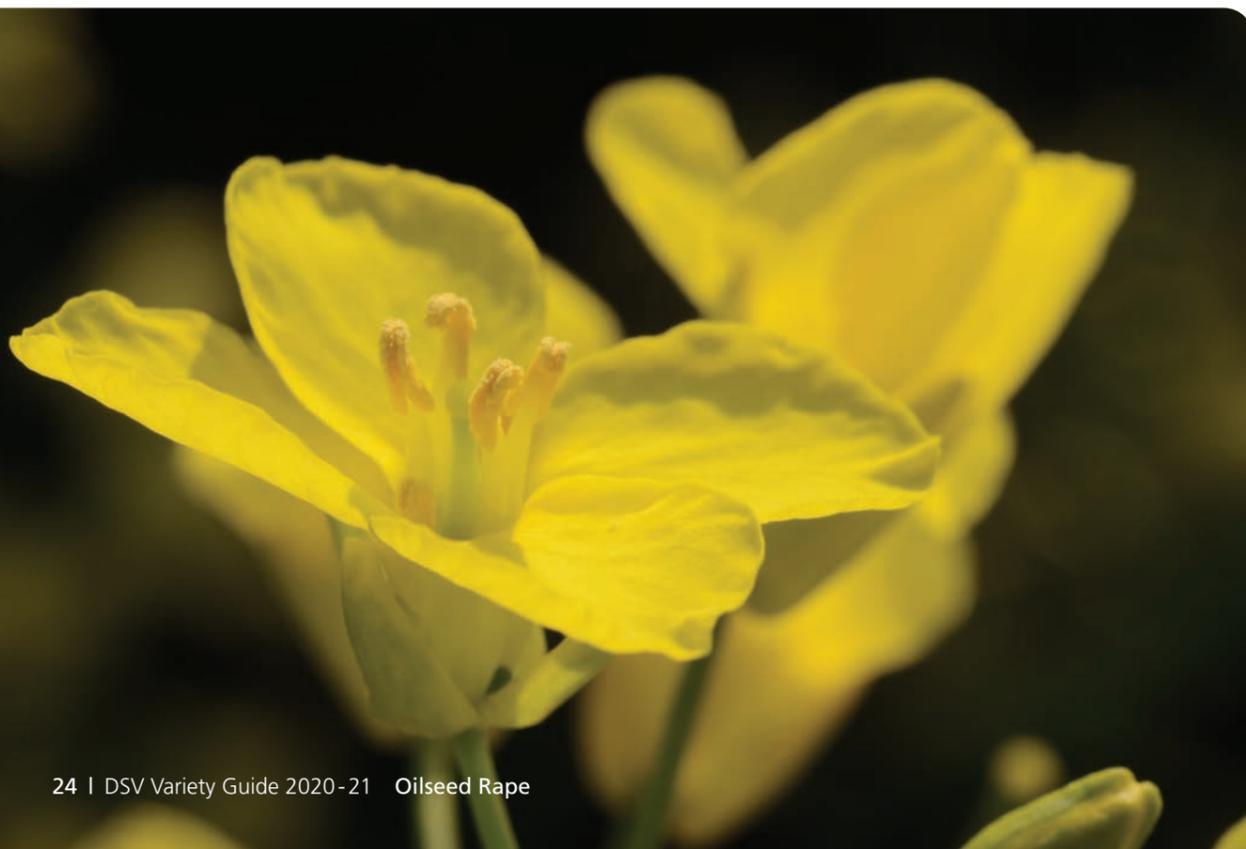
It is a high performing variety which has produced high yields in UK testing so far.

DSV 509 (MATRIX CL)'s disease package looks robust with high Light Leaf Spot scores and the added benefit of the RLM7 protection. It is a stiff variety which flowers early with a Maturity score of 6.

Gross Output	High
Seed Yield	High
Oil Content	45.3%
Winter Hardiness	High
Autumn Vigour	High
Spring Vigour	High
Plant Height	167cm
Flowering	5.3
Maturity	6
Lodging	9
Stem Stiffness	8
Light Leaf Spot	5.1
Stem Canker	8.3

Data Source:
DSV Internal Trials

The details of this product are for information only and are not an offer of sale.



Spring Oilseed Rape

We saw a dramatic rise in the spring rape drilling area in 2020. Spring oilseed rape crops deliver excellent gross margin opportunities allowing flexibility in the rotation following a late harvest – which often means poor weather conditions and, in general, allows growers an excellent opportunity to sort out pernicious weed problems, such as black-grass, while fields lie fallow through the winter. This is a key benefit compared to winter oilseed rape crops, which offer few cultural control measures to reduce grass weed numbers and rely heavily on agro-chemistry.

	Variety	Status	Yield		Seed Quality	Agronomic Characteristics				Clubroot Resistance
			Gross Output (%)	Seed Yield (%)	Oil Content (%)	Spring Vigour	Shortness of stem	Earliness of Flowering	Earliness to Maturity	
Hybrid	LUMEN	AHDB Descriptive List 2020	105	105	44.7	High	7	7	7	—
	LAGONDA	AHDB Descriptive List 2020	112	113	44.2	High	6	7	5	—
	LEXUS	AHDB Descriptive List 2020	103	104	44.7	High	6	7	5	—
Clearfield*	CLICK CL	National List	Good	Good	High	High	Good	Medium	Medium	—
Clubroot	MENTHAL CR	National List	104.4	105.2	45.0	High	7	7	5.4	Y

LUMEN

Spring Oilseed Rape

Status: AHDB Descriptive List 2020

LUMEN is one of the top performing varieties on the new Descriptive List. It features the third highest Gross Output (105%) ensuring maximum return for growers.

LUMEN was grown commercially for the first time in 2018. It took a significant market share in 2019 producing some impressive yields, for many who were new to growing spring oilseed rape.

LUMEN has a very high Seed Yield of 105% combined with a high Oil Content of 45% but by far its strongest asset is its early vigour in the spring, quickly establishing a strong rooting system and early leaf set helping to ensure maximum plant survival against potential flea beetle attack. The very early Maturity (7) is also an attractive feature for growers hoping to get the crop harvested before a change in weather conditions. LUMEN is relatively short (138cm) with excellent stem characteristics.



Gross Output	105%
Seed Yield	105%
Oil Content	44.7%
Shortness of Stem	7
Flowering	7
Maturity	7

Data Source:
AHDB Descriptive List 2020

LAGONDA

Spring Oilseed Rape

Status: AHDB Descriptive List 2020

LAGONDA joined the Descriptive List in December 2019. It has a Gross Output that is seven percentage points higher than previous list topping variety LUMEN. LAGONDA marks a large step forward in yield and vigour.

LAGONDA has a high Oil Content (44.2%) to accompany its high Seed Yield (113%) ensuring growers maximise returns at harvest. At 135cm it sits in the middle of the pack when it comes to plant height and has a strong score for standing ability.

LAGONDA is early to flower and has a medium maturity. Trials this year have demonstrated that LAGONDA has excellent Spring Vigour, quickly growing away from any possible pest attack. Drilling spring oilseed rape at the end of March/early April means less pressure is put on both man and machine. Spring oilseed rape generally only requires around 150 days to grow; therefore phoma isn't a problem due to its short vegetative stage and specific temperature requirements. The occurrence of fungal diseases is much less than in winter rape, so disease control is rarely necessary. However, LAGONDA demonstrates strong disease protection although a Sclerotinia spray may be required.



Gross Output	112%
Seed Yield	113%
Oil Content	44.2%
Shortness of Stem	6
Flowering	7
Maturity	5

Data Source:
AHDB Descriptive List 2020

LEXUS

Spring Oilseed Rape

Status: AHDB Descriptive List 2020

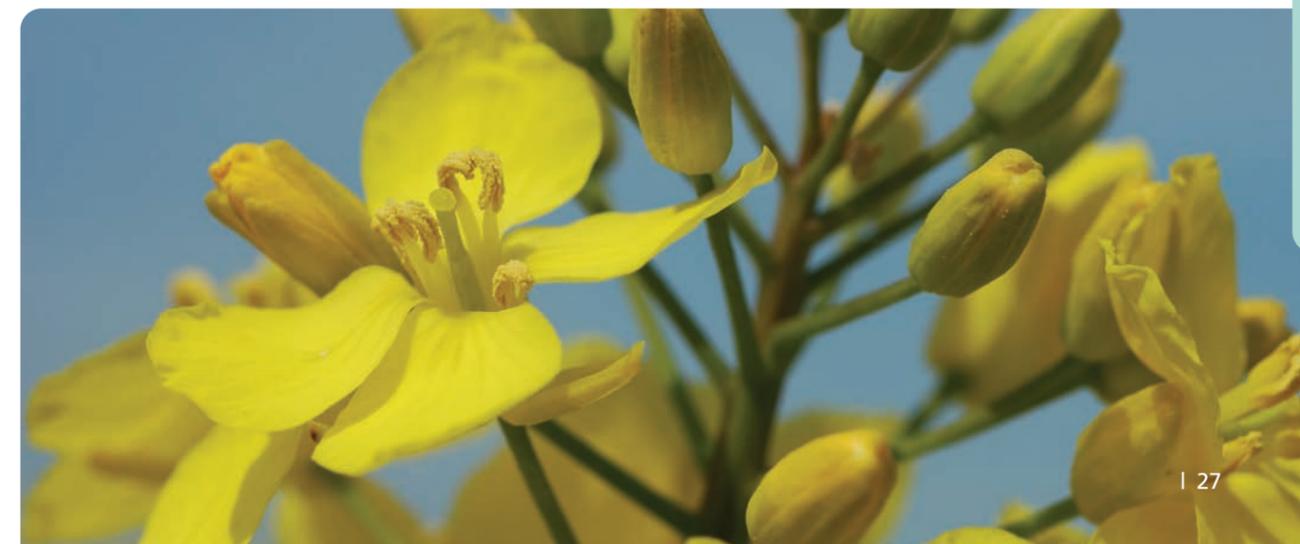
LEXUS is a high yielding spring variety that displays the strongest vigour in our portfolio.

LEXUS is early flowering with above average agronomic features in the current AHDB Descriptive List 2020.



Gross Output	103%
Seed Yield	104%
Oil Content	44.7%
Shortness of Stem	6
Flowering	7
Maturity	5

Data Source:
AHDB Descriptive List 2020



CLICK CL

Clearfield® Spring Oilseed Rape

Status: National List

CLICK CL is a hybrid spring rape variety which produces good yields on farm coupled with strong youth development in the spring. It is a new generation hybrid with Clearfield® herbicide tolerance which can be used to help control brassica weeds in the spring. Cleravo (imazamox + quinmerac) is approved for use on spring oilseed rape.

CLICK CL has produced some very high Oil Content in trials throughout Europe. CLICK CL has medium Flowering and Maturity scores as well as a good Resistance to Lodging score.



Gross Output	Good
Seed Yield	Good
Oil Content	High
Shortness of Stem	Good
Flowering	Medium
Maturity	Medium

Data Source:
DSV Trials Data

MENTHAL CR

Spring Oilseed Rape

Status: National List

MENTHAL CR is a very high yielding hybrid and DSV's first spring rape which offers the added benefit of clubroot resistance. MENTHAL CR is resistant to the most common strains of clubroot. It allows spring rape to be grown in areas previously unable to grow the crop. Not only does MENTHAL CR have good Seed Yield it also has a very high Oil Content.

MENTHAL CR is recommended for land which has been infected with the common strains of clubroot. MENTHAL CR may however, (in common with all clubroot resistant varieties) be infected by some strains and infections.

MENTHAL CR is slightly later to flower and mature than some of the other spring rapes available but this does help to spread the harvest load and realistically would only be two or three days later than the other varieties. MENTHAL CR has a thick dense canopy filled with pods and has good Resistance to Lodging.



Gross Output	104.4%
Seed Yield	105.2%
Oil Content	45%
Shortness of Stem	7
Flowering	7
Maturity	5.4

Data Source:
DSV Trials Data



Grass and Legumes

Extensive breeding and testing is carried out in the most important forage grass species in addition to small-seeded legumes. The main species are perennial, Italian, annual and hybrid ryegrass, Timothy, meadow fescue, tall fescue, cocksfoot as well as different clover species.

In the UK, our grass breeding station in Oxfordshire has been a centre for excellence in breeding very high quality perennial and hybrid ryegrass in the "Aston" series. Class leading varieties like ASTONENERGY, ASTONKING and ASTONCRUSADER have been at the forefront of UK grass forage mixtures for many years. Our specialist grass trials and breeding operation is headed up by Jamie Cotton. DSV UK also run the National and Recommended List Trials on behalf of AHDB, NIAB and BSPB from the site.

Annual ryegrass *Lolium westerwoldicum*

	Variety	Type	Yield	Rust Resistance
diploid	LIFLORIA	I	4	3
tetraploid	ALBERTO	I	5	5
	LIBONUS	I	5	3
	LIQUATTRO	I	5	3
	POLLANUM	M/I	4	3

I = Intercrop M = Maincrop Range: 1–5 (5 = best); breeders classification

LIFLORIA

- Outstanding performance for intercropping
- Good Rust Resistance guarantees high quality

POLLANUM

- One of the best in Rust Resistance
- Double purpose type ensures high flexibility

Italian ryegrass *Lolium multiflorum*

	Variety	Status	Yield	Rust Resistance	Persistence
diploid	DOLORES		5	3	4
	JAVORIO	A/S	5	4	3
	SANDERO	A	5	4	3
	SHAKIRA	A	5	4	3
tetraploid	ARMAN	A	5	5	4
	FABIO		4	3	3
	HUNTER	A	5	4	3

SANDERO

- Outstanding yields with good disease resistance
- Exceptional Winter Hardiness and standing ability

ARMAN

- Very good resistance to different diseases
- High total Yield based on impressive early growth

Hybrid ryegrass *Lolium hybridum*

	Variety	Status	Yield	Sward Density	Winter Hardiness	Rust Resistance	Persistence
diploid	PIROL	A/S	4	3	3	3	4
tetraploid	ASTONCRUSADER	A/S	5	3	3	4	5
	PERKINS	A	5	2	4	4	5

Range: 1–5 (5 = best); breeders classification

ASTONCRUSADER

- Excellent in Yield and Persistence
- Top recommendation in England and Wales

PERKINS

- New very persistent hybrid tetraploid
- Excellent quality and disease resistance

Recommended Status: Some varieties have Recommended Status from either AHDB, SRUC or both. Where applicable to the varieties in the tables, this is noted as follows:



Perennial ryegrass *Lolium perenne*

	Variety	Status	Yield Sward	Density	Winter Hardiness	Rust Resistance	Persistence	Forage Quality
Inter	diploid	ASTONCONQUEROR	A/S	4	4	2	3	3
		GUSTO ^{NEW}	S	4	4	2	4	4
	tetraploid	ASTONENERGY	A/S	4	3	3	4	3
		ASTONVISION	A	4	3	3	2	4
		ASTONBONUS	A	4	4	4	3	5
Late	diploid	ARNANDO		4	4	4	4	3
		ASTONCHIEFTAIN	A	4	4	2	3	2
		ASTONKING ^{NEW}	A	4	4	2	4	3
	tetraploid	ALFONSO	A/S	4	3	3	4	3
		HURRICANE		5	4	3	4	4
		VALERIO (M)		5	4	5	4	5

Range: 1–5 (5 = best); breeders classification

ASTONCONQUEROR

- Excellent all round, under cutting and grazing management
- Creates excellent dense sward
- Good quality complemented by outstanding disease resistance

ASTONKING

- Excellent late-heading diploid variety with top yields throughout the growing season
- High D-values achieved in all dairy enterprises

Timothy *Phleum pratense*

	Variety	Status	Yield Sward	Density	Winter Hardiness	Rust Resistance	Persistence	Forage Quality
	ATURO		4	4	3	—	4	
	LISCHKA		4	4	4	—	4	
	PRESTO	A/S	4	4	4	—	4	4

Range: 1–5 (5 = best); breeders classification.





Meadow fescue *Festuca pratensis*

	Variety	Yield Sward	Density	Winter Hardiness	Rust Resistance	Persistence	Forage Quality
diploid	LIHEROLD	5	4	5	4	5	4

Range: 1–5 (5 = best); breeders classification.

Festulolium *Festulolium*

	Variety	Yield	Sward Density	Winter Hardiness	Rust Resistance	Persistence
	FEDORO	4	2	4	4	4

Cocksfoot *Dactylis glomerata*

	Variety	Status	Yield	Sward Density	Winter Hardiness	Rust Resistance	Persistence
	LIDACTA	A	4	4	3	3	4

Red clover *Trifolium pratense*

	Variety	Status	Yield	Winter Hardiness	Crude Protein Content	Resistance to			Persistence
						Stem Rot	Anthracnose	Mildew	
diploid	MILVUS	A	3	4	3	3	4	4	5
	HARMONIE	A/S	4	4	5	4	4	4	4
tetraploid	ATLANTIS	A/S	5	5	4	4	4	4	4

Range: 1–5 (5 = best); breeders classification

HARMONIE

- By far the highest Crude Protein Content on the Recommended List in England and Wales
- A variety without weaknesses

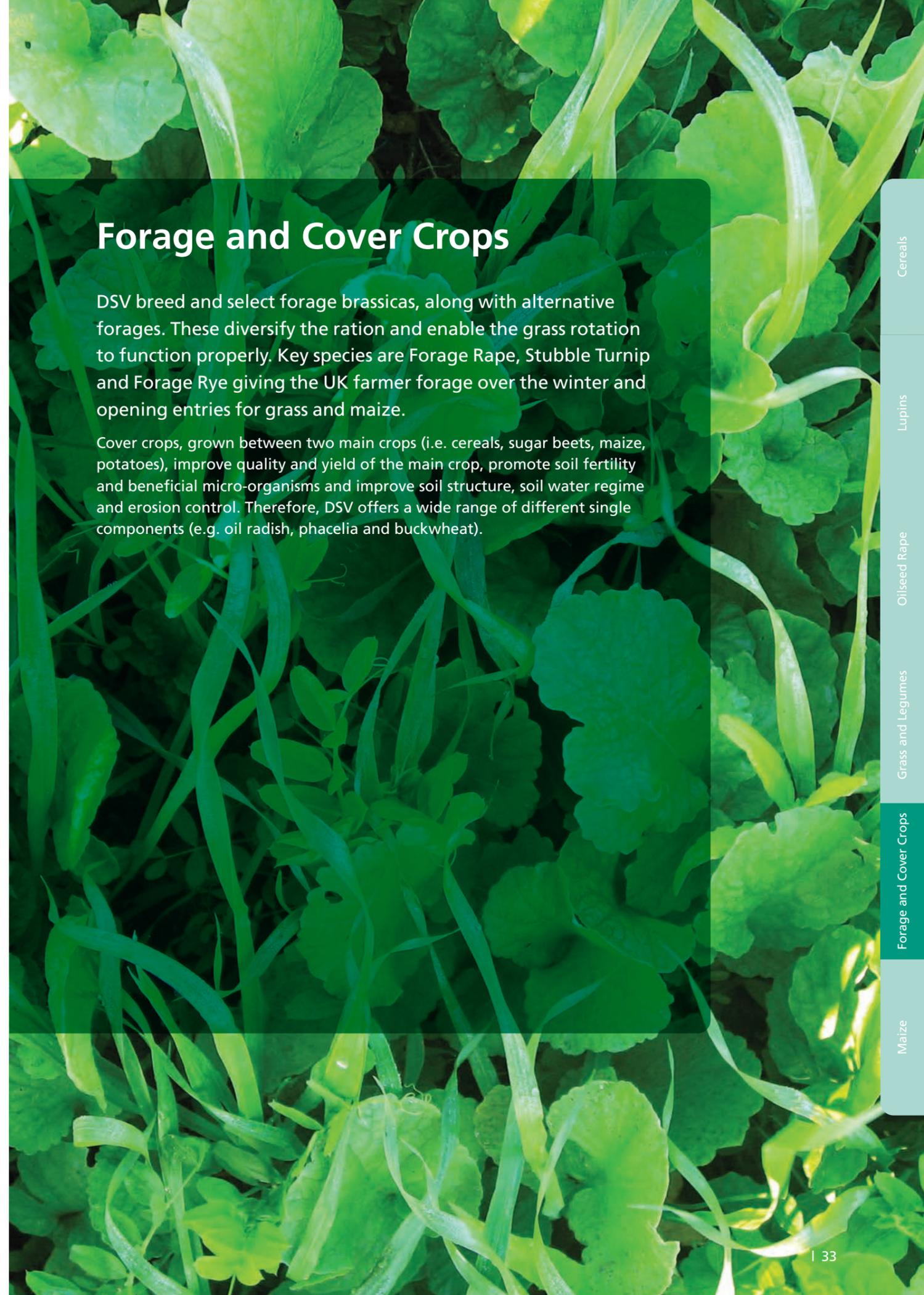
ATLANTIS

- Outstanding in Persistence
- High yields and Winter Hardiness

Forage and Cover Crops

DSV breed and select forage brassicas, along with alternative forages. These diversify the ration and enable the grass rotation to function properly. Key species are Forage Rape, Stubble Turnip and Forage Rye giving the UK farmer forage over the winter and opening entries for grass and maize.

Cover crops, grown between two main crops (i.e. cereals, sugar beets, maize, potatoes), improve quality and yield of the main crop, promote soil fertility and beneficial micro-organisms and improve soil structure, soil water regime and erosion control. Therefore, DSV offers a wide range of different single components (e.g. oil radish, phacelia and buckwheat).



Our best cruciferous

White mustard and oil radish have always been very common in cover cropping. Breeding of nematode reducing varieties often secures or even allows the intensive cultivation of beets and vegetables in many regions. Our varieties combine the best characteristics.

Name	Organic*	Species	Susceptibility for <i>H. schachtii</i>	Other nematode resistances	Matter production at the beginning	Tendency for flowering	Sowing time**		
							Early	Med	Late
RADETZKY	✓	oil radish	2	Meloidogyne chitwoodi Meloidogyne falax Meloidogyne minor	4	3			
RESET		oil radish	1	Meloidogyne chitwoodi	6	3			
TRIDENT	✓	oil radish	2	Meloidogyne chitwoodi Meloidogyne hapla	7	3			
XCELLENT		oil radish	2		6	3			
BRUTUS	✓	oil radish	2***						
PASSION		white mustard	2		6	4			
ConceptOne		white mustard	1		6	3			
POLE POSITION		white mustard	2		7	3			
INDIAN SUMMER		white mustard	2		7	3			
LITEMBER	✓	white mustard		7	5				

Based on BSA-results, Germany 2019. Range: 1–9 (1 = low expression degree, 9 = high expression degree).
*Also available in organic quality. **In warm temperate climate zones like in Central Europe. ***Based on Belgium trial results.

Oil Radish *Raphanus sativus*

RESET

Best for sugar beets

- Highest possible resistance against *Heterodera schachtii*
- Low tendency to lodging and flowering

RADETZKY

Combines four resistances

- Resistances: *Heterodera schachtii* (cat.2); *Meloidogyne chitwoodi*, *falax* and *minor*
- Suitable for late planting due to good standing ability and low tendency for flowering

TRIDENT

Three times the performance against nematodes

- Resistances: *Heterodera schachtii* (cat. 2); *Meloidogyne chitwoodi* and *hapla*
- Nematode control in intensive crop rotations with sugar beets, potatoes and vegetables
- Fast early growth for good weed suppression combined with a low tendency to flower



Forage winter rye *Secale cereale*

BONFIRE*

The fast forage rye

- Winter cover crop to use for forage or biogas production
- With very rapid autumn and spring growth, BONFIRE provides an earlier sowing window for the next crop
- Lowers the risk of nitrogen leaching during winter to a minimum

Hairy vetch *Vicia villosa*

Otsaat Dr. Baumann's*

- Ideal for winter cover crop cultivation due to good winter hardiness, tillering and high biomass production
- Perfectly suited to planting prior to maize and root crops

Turnip *Brassica rapa rapa*

MARCO

Great for grazing

- Early maturing tetraploid variety
- Mid-summer sowing for grazing in autumn and winter
- Highly palatable due to a leaf root ratio of 50:50
- Resistant to bolting and tolerant to club root and alternaria

Mustard *Sinapis alba*

LITEMBER

Late all-rounder

- Fast growing and late flowering
- Tolerates late sowing and offers high organic matter production
- Resistant to drought during early growth

ConceptOne

Number One in controlling beet nematodes

- Unbeatable score of 1 for susceptibility to beet nematodes
- Low tendency to flowering and bolting
- Late heading enables early sowing dates

* Also available in organic quality.



Crimson clover *Trifolium incarnatum*

LINKARUS*

The versatile choice

- Overwintering crimson clover with flexible usage (cover crop, forage, green manuring)
- Characterised by fast growth, intermediate flowering, mass of fibrous roots and dense foliage

Phacelia *Phacelia tanacetifolia*

BEEHAPPY*

Makes bees happy

- Late flowering type with very good standing ability
- Fast early growth leads to fast soil covering associated with good weed suppression
- An extensive system of fine roots penetrates deep into the soil to reach nutrients and improve soil structure

Buckwheat *Fagopyrum tataricum*

LIFAGO*

Large leaves for excellent ground cover

- Especially bred for cover crop use
- Large leaves for excellent ground cover
- Impressive high organic matter production based on fast early growth
- Reliable frost senescence

* Also available in organic quality.

Field pea *Pisum sativum*

LIVIOLETTA*

Top variety for green manuring

- One of the top field pea varieties for green manuring or forage use
- Good standing ability
- High protein content and dry matter yields
- Reduced sowing costs due to a low thousand grain weight

Winter forage rape *Brassica napus*

AXEL

The all-rounder with 00-quality

- Suitable for cutting and grazing
- Highly palatable thanks to fine stems and many leaves
- Intensive rooting leads to very good pre-crop effect
- Outstanding in weed suppression combined with a low tendency for flowering

GORILLA

The dark purple green and re-growing forage rape

- High yield and dry matter content
- Early sown (late spring), GORILLA can be grazed or cut twice in the same year
- Above average dry matter content leads to high total dry matter yields
- Very good standing ability and tolerant to clubroot
- Moderate to good resistance to powdery mildew

Maize

DSV distribute competitive maize varieties in Germany and throughout Europe. Our range comprises various maize hybrids from several gene pools specially selected through our stringent internal testing system. We focus on quality and high-yielding varieties. The varieties shown on the following pages are specially selected to enable UK growers to balance maximum agronomic flexibility with proven performance.





Variety	Maturity		Organic	Type of grain	Drilling Date			Location	Seed Rate (Kernels per Acre)		Dry Matter	Yield (1-5)			Resistance (1-5)		
	Forage/Grain	Use			Early	Mid	Late		Silage	Grain		Starch	Starch %	Digestibility	Grain Yield	Lodging	Fusarium
AMBIENT	120/130	Silage/Energy	Yes	Flint	Yes	Yes	Yes +	All	45,000	—	1	2	5	4	4	2	3
JOY	150/160	Silage/Energy	Yes	Flint	Yes	Yes	Yes +	All	45,000	—	2	2	5	4	4	2	3
LIROYAL	180/190	Silage/Energy/Grain		Flint	Yes	Yes	Yes	All	42,000	38,000	4	4	5	4	4	4	4
LIKEit	190/190	Silage/Energy/Grain	Yes	Flint	Yes	Yes	Yes	All	42,000	38,000	5	4	4	3	4	4	4
EXPEDIA	200/210	Silage/Energy		Flint/Dent	Yes	Yes	—	Favourable	40,000	—	4	5	5	5	—	5	4
FARMUNOX	200/210	Silage/Energy		Flint/Dent	Yes	Yes	—	Favourable	40,000	—	5	4	3	3	—	3	4
MOVANNA	210/220	Silage/Energy	Yes	Flint/Dent	Yes	Yes	—	Favourable	40,000	—	4	4	3	3	—	5	4
PETROSCHKA	230/230	Silage/Energy		Flint/Dent	Yes	—	—	Very favourable	38,000	—	5	5	4	4	—	4	4
KORYNT	230/250	Silage/Energy/(Grain)		Flint/Dent	Yes	—	—	Very favourable	38,000	38,000	5	3	4	5	5	4	3

Ultra Early

AMBIENT FAO 120/130

JOY FAO 150/160

These two varieties are the new generation of ultra early maize. Based on a strong flint genetic, these hybrids are really fast in vegetation, flowering and cob filling. They have a very high starch content and thus a strong forage quality. DSV ultra early maize varieties also have an outstanding youth development, including in cold areas, which makes them the perfect choice for those wishing to follow grass in the spring.

Early

LIROYAL FAO 180/190

LIROYAL is the star of the DSV UK portfolio for UK dairy farmers. Agronomically complete with top yield in its class, LIROYAL also has great digestibility and starch content on favourable and less favourable sites.

LIKEit FAO 190/190

High yielding, high standing power and high disease resistance, LIKEit offers all things to all growers. With a bold plant and fully enclosed cob, LIKEit hits the mark as a forage, AD and grain variety.

Intermediate

EXPEDIA FAO 200/210

A high quality forage with high yield potential. This stay green type has Digestibility, Starch, excellent standing power and strong resistance to Eyespot and Fusarium.

FARMUNOX FAO 200/210

The earliest intermediate offered by DSV in the UK, FARMUNOX has the best yields in this maturity bracket. The variety has excellent quality with good Eyespot and Fusarium resistance.

MOVANNA FAO 210/220

The mid-harvest AD performer with a very robust agronomic package. MOVANNA is DSV UK's most consistent AD variety. Excellent standing power and resistance to Fusarium and Eyespot mean it's still there ready when you want to harvest.

Late

PETROSCHKA FAO 230/230

PETROSCHKA is a high quality AD variety for the UK. What's more, this mixed flint/dent maize can be used as a quality maize for dairy cows and bull fattening.

KORYNT FAO 230/250

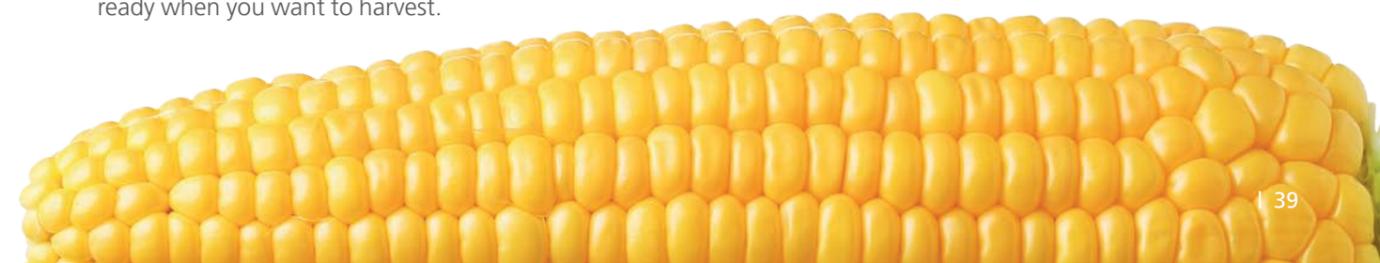
KORYNT is a dual-purpose variety in the late segment. It is medium-high with very broad leaves. Due to its flint genetic it has excellent forage quality and good potential in grain.

"LIROYAL typifies the DSV UK maize portfolio, balancing yield, quality and agronomics to give the UK grower the ultimate package."

Frank Trockels, Maize Product Manager, DSV



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All data is sourced from the UK AHDB Recommended List 2020/21 and National List trials for cereals and oilseeds. On the 1 – 9 scales, high figures indicate that a variety shows the character to a high degree. Note: Whilst every effort has been made to ensure that the information in this variety guide is accurate and complete, some of the information is supplied to us by third parties and we are not able to check the accuracy and completeness of that information. No guarantee is given, that the listed information represents all aspects of agricultural practice. We do not accept any liability arising from any inaccuracy or omission in any of the information provided in this guide.