









Autumn 2019 edition Growing Oilseeds

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Dates for your Diary



Cereals 2019: 12th — 13th June Boothby Graffoe, Lincs

Cereals 2019 provides our members and customers with a key opportunity to meet the whole United Oilseeds and Hubbards Seeds team and find out more about our top seed varieties and the best crop marketing routes. We look forward to welcoming you to our stand, number 423. Delicious refreshments will be available.



BASIS points are available for this publication - the details can be found within this booklet. Growers who wish to claim the points should email linda@basis-reg.co.uk with the reference number as well as their membership number, postcode and date of birth.

Growing Oilseeds Autumn 2019 Edition

Welcome from the Chairman

Welcome to the autumn issue of Growing Oilseeds. I hope you will find the information within both interesting and useful for the coming season. As Chairman of your co-operative, I am keen to highlight the key commercial advantages of becoming a full member of the organisation. Joining us costs just £15 for a lifetime's membership and provides a wealth of benefits. These include: eligibility for profits redistribution payments, penalty-free Produce of Area contracts, no surcharges on part loads, cash advance payments, competitively priced local storage and the UK's most successful OSR crop marketing pools.

Over the last 13 years, the co-operative has shared profits totalling £4.19m with its trading members and now has a net worth of over £10m. Having strength in numbers helps bolster our negotiations with seed breeders and UK and European crushers, in order to offer members the best products and services. A strong membership also enables us to remain an independent voice on behalf of members' interests. I hope you will join the 4,500 growers who are already members of United Oilseeds.



Troy Stuart Chairman

Managing Director's View: Focus on the Value

Despite the challenges that have faced OSR this season, financially astute farmers will recognise that rapeseed continues to offer the highest gross margins of any break crop — up to £714 per hectare. Specialist markets, such as HOLL, offer still more. A HOLL buy back contract from United Oilseeds offers a potential £744 per hectare gross margin, with a guaranteed minimum premium of £25.00 per metric tonne included, before the addition of quality bonuses (see P4). To add value for our members, these contracts also come with free replacement seed assurance should the crop fail to establish.

Growers who place their crop in one of our pools have also seen better than market average returns with our 2018 Harvest Pool delivering £302 per tonne before quality bonuses and our Long Pool returning £315 to £318 / tonne in the October '18 to March '19 neriod.

Once again, we are offering members outstanding rapeseed varieties to improve on farm yield and oil performance, including the top conventional and

hybrid varieties on the AHDB Candidate List 2019/20 – Acacia and Aurelia – for which we have negotiated exclusivity.

Outside of rapeseed, as the UK's leading break crop specialist, United Oilseeds is also developing a significant share of the burgeoning oats market and we offer advantageous buy-back contracts to members.



Managing Director

I believe there are very good reasons for optimism. The demand for rapeseed oil remains buoyant and new varieties offer growers greater performance. Whilst drought exacerbated the problems of last year's establishment period, we should remember

As our Chairman says above, our strength is our membership, so please join us and help continue

that the 17/18 crop established very well indeed.

the success of your co-operative.

Growing Oilseeds

HOLL Contracts



Plus All Quality Bonuses for Harvest Crop 2020

FREE REPLACEMENT SEED ASSURANCE

United Oilseeds is offering growers a guaranteed minimum premium of £25.00 per metric tonne for harvest crop 2020 and optional for 2021 on HOLL contract

- A guaranteed minimum £25.00 per tonne premium is worth an extra £87.50 per hectare* before the addition of oil, moisture and admixture bonuses.
- The £25.00 per tonne premium applies to post-harvest movement. For harvest movement. the premium is £20.00 per tonne.
- HOLL buy-back contracts are available with V3160L the high performance HOLL variety. (V3160L: £165/bag, delivered in 1 million seed bag, Thiram/Detonator dressed.) *Assuming an average yield of 3.5 tonnes per hectare.

Crop Establishment – Peace of Mind

All United Oilseeds HOLL buy-back contracts come with Free Replacement Seed Assurance to ease any grower concerns about crop establishment.

HOLL OSR &"00" OSR are the Most Profitable Break Crops

Market prices are currently over £300 per tonne before additional premiums and quality bonuses. The table below shows a comparison of the gross margins for "00" OSR to other winter crops, plus the high gross margins achievable with HOLL varieties versus "00" hybrid winter oilseed rape.

Estimated Gross Margins Harvest 2019 (Nov)

	First Feed Wheat	Milling Wheat	HOLL OSR	Winter OSR	Second Feed Wheat	Winter Barley Feed	Winter Oats	Winter Beans	Winter Linseed
Output									
Value/tonne £s	148.00	163.00	335.00	335.00	148.00	138.00	143.00	188.00	340.00
HOLL Premium £s			25.00						
Yield/Ha	9.00	8.25	3.50	3.50	8.00	7.40	6.30	3.80	2.00
Gross Income £s	1332.00	1344.75	1260.00	1172.50	1184.00	1021.20	900.90	714.40	680.00
Less Variable Costs									
Seed £s	58.00	65.00	82.50	55.00	103.00	73.00	64.00	81.00	95.00
Fertiliser £s	186.00	225.00	173.00	173.00	171.00	147.00	132.00	47.00	87.00
Sprays £s	246.00	260.00	230.00	230.00	267.00	192.00	135.00	126.00	77.00
Total Variables £s	490.00	550.00	485.50	458.00	541.00	412.00	331.00	254.00	259.00
Gross Margin/Ha£s	842.00	794.75	774.50	714.50	643.00	609.20	569.90	460.40	421.00

Market Update: Rapeseed prices holding up well



Despite wheat prices coming under significant pressure over the last 6 months, rapeseed prices have been holding up well with many chances to sell above £300/tonne for the old crop position.

Trading Manager. United Oilseeds

The demand for rapeoil to produce rape methyl ester (RME) for biodiesel has been favourable this season due to the shortfall of rapeoil from the EU harvest. Biodiesel buyers have had to pay high prices for the diminished supply of RME which are required to meet biofuel mandates and also necessary for winter fuel use, as RME does not wax at lower temperatures. EU biodiesel margins have therefore been very profitable this season which has helped support rapeseed prices. Also, a recent improvement in crude oil prices also goes someway to improving the environment for biodiesel prices.

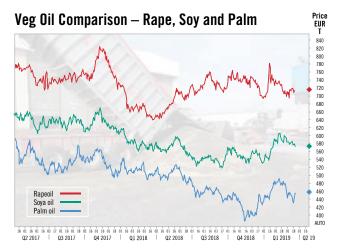
Looking forward to the coming 2019 harvest, a reduction in EU rapeseed area down to 5.66 million hectares is likely to support prices. Latest production estimates are at only around 18 million tonnes compared to 19.8 million for the current season. The EU will become more reliant on rapeseed imports which will likely be well over 5 million tonnes. The main supply will be from Ukraine whose harvest production

prospects are currently looking good. Ukrainian imports are also likely to be supplied before January in order to beat a proposed change in Ukrainian VAT policy on 31st December, Supplies from Australia are currently in doubt as drought conditions continue in some Southern areas. The other major supplier is likely to be Canada which historically can supply around 0.5 million tonnes into the EU on the basis that a limited amount of GM canola can be used for biodiesel providing sustainability criteria are met and

the rapemeal can be sold as GM. The challenge will be that crushers will want to increase the supply of Canadian canola due to its increased availability and competitive price. We believe imports of over 1 million tonnes will be achievable provided the supply of sustainable canola increases along with the increased demand outlets for GM rapemeal and also GM glycerine which is a by-product of biodiesel production.

As during the current season, biodiesel demand will remain high for the coming harvest as there are no immediate plans to reduce the European biofuel mandate below 7%. Therefore, if as seems likely, rapeoil is in short supply, we expect rapeseed prices to remain buoyant. The unknown going forward is how the EU manage biofuel mandates going past 2020 and what effect lower demand for diesel cars has, as electrification becomes more popular.

The graph below shows the wide premium of rapeoil over sova oil and palm oil.



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Growing Oilseeds

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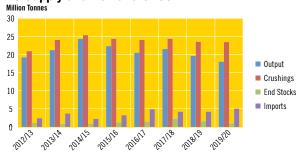
OSR Production

Looking at supply and demand within the UK, a reduction in area of 15% due to drought and flea beetle damage combined with likely variable yields could reduce UK supply to around 1.7 million tonnes. Working on traditional demand and the introduction of the new crushing plant at Stratford, we expect UK consumption to be at around 2 million tonnes, which could require 300,000 tonnes of imports likely from France and the Baltic States. The threat of imports from Ukraine, Canada and Australia will likely be curtailed by the logistics of handling larger vessels which are better suited to arrive at mainland Europe.

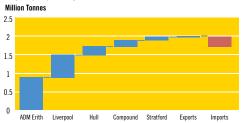


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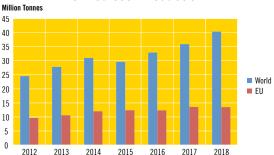
EU Supply and Demand of OSR



Demand in UK



World and EU Biodiesel Production



Choice of Pool Movement Period

There are three pools and movement periods to suit all members' individual requirements:

Harvest Pool

Movement July to September. Generally moved within 5 days of customer's request.

Long Pool

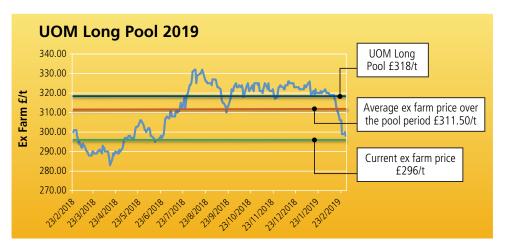
Movement October to March in a month to suit a grower's storage and cash flow.

Carte Blanche Pool

Movement at buyer's call, but generally between April and June. The Carte Blanche Pool also attracts a £4.00/tonne additional premium.

Pool Marketing

Further to the excellent result of the Harvest 2018 Pool of £302/tonne, the Long Pool has also performed well in the October to March period returning £315 to £318/tonne.



The fall off in prices from December onwards, as crushers switched into cheaper US soya supplies due to China/US trade issues, has made sales later on in the season more problematical. Our close relationship with the crushers has meant we have been able to take advantage of higher prices early in the season and also

maintain physical movement later to ensure the timely movement of crop that growers require. Also, our large network of over 50 stores will allow us to move rapeseed quickly and efficiently at harvest. This will be particularly important this coming harvest as the export market will likely be uncompetitive.

HOLL Pools

- Harvest, Long and Carte Blanche Pools available
- Added premium for HOLL over and above 00 varieties
- Market outlets for domestic and export use covering the whole of the UK
- Storage solutions throughout the UK

HEAR Pools

- Harvest, Long and Carte Blanche Pools available
- Added premium for HEAR over and above 00 varieties
- Market outlets for export use covering the whole of the UK
- Storage and drying solutions throughout the UK

For further information please call your local United Oilseeds Area Manager or our Head Office on 01380 729 200



Growing Oilseeds

Beat the Beetle By Simon Kightley, NIAB

Autumn 2018 saw the most widespread and devastating infestations of cabbage stem flea beetles that we have experienced in the five years since the neonicotinoid seed treatment ban. Estimates put crop losses at establishment in the region of 10% of the sown area and in the crops that made it through the winter, the larvae, feeding in the plants, have caused considerable damage on a more localised scale. But this bleak



picture does not have to be the forerunner of the 2019/20 crop and it is all too easy to forget that in autumn 2017 we experienced almost perfect conditions for establishment, with almost no crop losses and the relatively cold winter went a long way towards suppressing larval activity.

The main setback to this year's crop has undoubtedly been the acute drought, at sowing time, which prevented the emerging plants from growing away from the adult beetle feeding damage. The mild winter that followed has helped to increase larva numbers and the potential threat to next year's crop if we don't get useful rains in August and September.

On a positive note, the conditions for pollination this year have been very good. The Defra Yield Plateaux project that we did in 2011 for wheat and rape clearly identified dry, mild conditions during the oilseed



flowering period as key to achieving high yields and I would expect growers with well-established crops to be pleasantly surprised at harvest this year.

So what can growers do to minimise the threat?

From our own crop damage surveys, over the last four years, the clearest message by far, from grower responses, is that early sowing is associated with the best establishment, as long as there is enough soil moisture to germinate the seed. Crops sown in the second to third week of August will typically benefit from warmer conditions and longer day lengths than later in the month and into September. The picture on establishment method is far less clear and varies from season to season. In fact the only consistent finding was that autocasting is associated with low levels of beetle damage but of course that ties in with early drilling. The main thing is to have a well compacted seed bed after drilling, to retain soil moisture to promote rapid germination and emergence and restrict beetle activity below the surface. So, in some seasons depending on soil type and soil moisture, ploughing might be the optimum approach but in others shallow cultivations or direct drilling will be better alternatives.

Seed rates and variety type also need to be considered. I think that over the years seed rate recommendations have gone dangerously low and a target of 40 plants per square metre is not suited to the challenges we now

face. Sixty plants is far more appropriate but be sure to choose varieties with proven standing ability so that if establishment is problem free and all the plants come, lodging does not become an issue. Higher seed rates are generally more viable with conventional varieties, because of seed prices.

Set against that, growers should be aware that hybrids tend to have slightly superior early vigour and might have the advantage in borderline crop survival situations. I have seen this pattern repeatedly in variety trials in recent years. There is also a weak trend for large seed to show superior early vigour and growth. This varies greatly between seed lots however, depending on pollination and seed ripening conditions for the seed crop and does not present the consistency needed for planning purposes.

Lastly, avoid the temptation to use spray after spray of pyrethroid insecticides if your crop does become infested. Many of the beetles are resistant and you will end up doing more harm than good by killing off the beneficial insects and arthropods which predate on the beetles, or parasitize the larvae. Swedish survey work, over many years, has shown a 7-8 year population cycle in cabbage stem flea beetles, classically indicative of prey/predator population dynamics. We must hope and predict that, if we can ease off on the insecticides, a new post neonic equilibrium can be achieved. Of course, the advantage of systemic seed treatments such as the neonics was that they controlled grazing invertebrates but not their predators and a return to something like that would be ideal.

We have seen some good results with Lumiposa but understand that the general opinion is that it lacks the potency and persistence of the neonics. Other, more radical options, including various biostimulants, are in development and I am looking forward to seeing these demonstrated in commercial crops.

At NIAB, we have been doing a lot of work with companion cropping but the only real glimmer of success has been with white mustard. Sown at twice the oilseed rape seed rate, it appears to draw the attention of the beetles away from the rape, because of its rapid early growth. It also seems to be very tolerant of the beetle grazing. It's a fine line between protecting the young rape plants and out-competing them however and the mustard needs taking out as soon as the rape plants have established. The best option is to go for a Clearfield variety of oilseed rape and use the associated herbicides to take out the mustard in late September if the rape is establishing well by then.

We know that other teams are looking at different strategies, including retaining the previous year's rape stubbles, in the hopes that the volunteers will act as an early lure for the migrating beetles and delayed sowings, in order to avoid the main migrations altogether. We have had some experience of both these approaches, but with generally unfavourable outcomes. With increasing attention on the damage that larvae are doing to crops, our best advice here is to go for an early flowering hybrid. These will have the best natural vigour with which to grow away and compensate for the crop damage in spring.



Autumn 2019 edition Growing Oilseeds

How breeders are stacking traits to tackle OSR variability

Using precision breeding techniques to stack risk management traits, Limagrain is bringing UKspecific varieties to market which help mitigate seasonal yield variability.

Variability is the gap between a variety's genetic yield potential and realised yield on-farm, which can be attributed to a number of factors.



Environment and farm practice

Environment, namely; moisture and sunlight during the growing season, and agronomic practices determine how much of the theoretical yield potential is achieved.

When these are in the grower's favour, with good weather allowing inputs to be carried out correctly and timely, actual performance should be close to the variety's genetic potential.

However, weather extremes that hinder crop development, timely operations, or pressures from pests and disease, can widen that gap considerably, says Limagrain's European Portfolio Manager for oilseed rape; Dr. Vasilis Gegas.

This in-field variability can be exacerbated by fluctuations in commodity prices and input costs,

Dr Vasilis Gegas, Limagrain European Portfolio Manager — Oilseed Rape

so when yields and prices are low and costs are high, profitability can be slashed.

Bred in the UK for the UK

LG select varieties adapted to local environmental conditions at the earliest stage. A variety spends many years — from the beginning of the breeding cycle all the way to National List trials - in the UK.

"LG has a network of trial sites around the UK, making its varieties inherently more stable under UK conditions."

"We can eradicate inconsistent varieties and ensure we only place the most stable into National List trials and subsequently into the market."

Genetic resilience

Introducing genetics that make varieties more resilient to environmental and agronomic pressures across a variety of seasons, is key.

Limagrain use precision breeding techniques to achieve this. For example, 'pod shatter resistance' is now standard in all LG's hybrids.

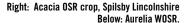
Although the risk of untimely pod shatter isn't high every year, this trait provides good insurance if poor weather strikes before harvest. Pod shatter also protects from losses during harvest and reduces the number of volunteers.

Turnip Yellows Virus

Similarly, Turnip yellows virus (TuYV) isn't endemic every season, but when aphid pressure is high and prolonged like this year, infection is difficult to prevent with foliar insecticides alone, significantly reducing yield.

"When we started working with these traits, there was a trade-off, they were suppressing yield. Within five years, we've moved from the bottom of the RL, with TuYV resistant varieties, to the top."

TuYV resistance is now standard in all LG hybrids; including Aurelia.



Disease resistance

Other traits loaded into the breeding programme include the RLM7 stem canker resistance gene, which provides stable resistance scores above 7. Limagrain also aims to offer varieties with a Light Leaf Spot score of at least 6.

Agronomic insurance

These fully loaded hybrids see agronomic insurance built into LG varieties.

"Aurelia is one of the first fully loaded hybrids to really show the benefits of the breeding strategy, offering very high yield potential with genetic traits which ensure growers shouldn't lose yield in unfavourable conditions."





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Acacia: Highest Gross Output on AHDB Candidate List



United Oilseeds has secured exclusive access to Acacia, the exciting new top variety on the AHDB Candidate List 2019-20. A conventional variety from Limagrain, Acacia is the highest yielding variety on the list.

"Acacia is the new benchmark for oilseed rape performance in the UK," says Beckii Gibbs, Seed Manager at United Oilseeds. "It offers growers an excellent combination of performance and agronomic features and is certain to prove hugely popular."

An Anastasia cross, Acacia inherits that variety's strong autumn and spring vigour, solid disease resistance and short stiff straw, providing excellent standing ability up to and during harvest.

EAST/WEST REGION OIL BONUSES

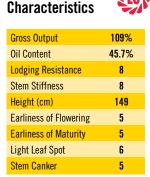
Oil Content	Oil Bonus per tonne	Oil Bonus per load	Oil Bonus per hectare
	(£/tonne)	(£/29 tonnes)	(£/ha)
45.7%	£26.68	£773.72	£101.38

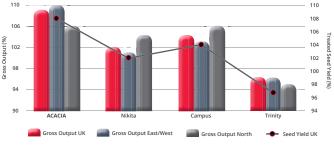
Based on a crop price of £312 per tonne and an average yield of 3.8 tonnes per hectare

Acacia offers a powerful combination of key benefits:

- Very vigorous in both the autumn and spring. An important attribute for the establishment of winter oilseed rape, especially when the crop is under stress from pests and disease.
- Medium-early flowering and medium-late maturity, giving the crop a longer grain fill period and the farmer an opportunity to spread harvest workloads.
- Good disease resistance to light leaf spot and stem canker; the two-main yield robbing diseases of oilseed
- · A short variety with very stiff stems and very good lodging resistance, it provides growers with an easier. quicker harvest.
- High levels of oil. Oil quality bonuses and premiums are increasingly important and oil content genetics are very stable, providing a way of safeguarding your

Gross Output vs. Treated Seed Yield Acacia Agronomic





Acacia has shown extremely high gross output and treated yield potential in both England and Scotland, showing the variety performs well across the whole of the UK.

Aurelia: The Fully Loaded Hybrid with Outstanding Performance

AHDB CANDIDATE

Growing Oilseeds

Aurelia is the number one hybrid on the 2019/20 AHDB Candidate list and it offers the highest gross output at 109% for the East/West. The product of Limagrain's expert breeding and development programme, it sets a new benchmark for oilseed rape performance.



It comes fully loaded with key traits including: TuYV resistance, pod shatter resistance and the RLM7 gene for protection against Stem Canker. It also demonstrates exceptionally strong autumn and spring vigour, which helps fast establishment and good growth after the winter.

The variety provides a high oil content at 45.1%, a high seed yield (108%) and offers a superb disease package to protect the crop during the growth cycle. It has an "8" rating for stem canker and a "7" for light leaf spot. It will also stand well, up to and during harvest, with an "8" and "7" rating for resistance to lodging and stem stiffness respectively.

"Aurelia is one of the most exciting varieties we have seen for a long time says Beckii Gibbs, United Oilseeds Seed Manager. It is a fully loaded hybrid that provides an unbeatable combination of traits and features that should deliver strong healthy plants and high yields.

"For example its pod shatter trait, a result of Limagrain's extensive breeding programme, is particularly strong and giving six days more protection against shatter than a normal hybrid, safeguarding against seed loss and volunteers in future crops. It's no surprise to me that with all these traits and features, Aurelia has the highest Agronomic rating (41) of any variety on the Recommended List and its sales to date are already demonstrating its appeal among growers," continues Beckii.

The agronomic data for Aurelia is now published on the AHDB website.

EAST/WEST UK REGION OIL BONUSES

Oil Content	Oil Bonus per tonne	Oil Bonus per load	Oil Bonus per hectare
	(£/tonne)	(£/29 tonnes)	(£/ha)
45.1%	£23.87	£692.23	£90.70

Based on a crop price of £312 per tonne and an average yield of 3.8 tonnes per hectare

Aurelia Agronomic Characteristics

Gross Output UK	107%
Seed Yield UK	108%
Oil Content	45.1%
Lodging Resistance	8
Stem Stiffness	7
Height (cm)	154
Earliness of Flowering	5
Earliness of Maturity	5

This publication has been registered for:

BASIS number: CP/84145/1920/g 2 Crop Protection points

Autumn Seed Portfolio

As a totally independent co-operative, owned entirely by its farmer members, United Oilseeds offers you the best advice about the different OSR varieties available and which of them will be most suitable for your individual requirements and locality. Our Seed Department has grown significantly in recent years, which reflects the strength of our seed portfolio from year to year and our close relationships with the leading seed breeders. Once again, we are able to offer you the very best performing varieties at competitive prices. Backed up by strong logistics support that always delivers seed to your farm on time, our seed department is always ready to help you choose the optimum varieties for your needs.

BARBADOS

The Northerner that conquered the UK



- Suited to all regions and early drilling
- Twin 7s for LLS and stem canker
- Exceptional gross output in the North
- Stiff straw with strong establishment
- Good verticillium wilt tolerance across sites
- Strong following in the East and South East







Data sources: AHDB Recommended List, Winter Oilseed Rape 2018/19. * KWS Internal scoring (out of 5) for Verticillium Wilt Tolerance.

OVERVIEW	North
Variety Type	Conventional
Recommendation	North
Gross Output — North	106
Seed Yield – North	106
AGRONOMY	
Shortness of Stem	6
Lodging	8
Stem Stiffness	8
Flowering	5
Maturity	4
Oil Content (%)	45.2
DISEASE	
Light Leaf Spot	7
Stem Canker	7
Verticillium Wilt Tolerance	* ****

DJANGO Your golden opportunity for gross output!



NVFRVIFW

- Very high yielding conventional variety
- Strong disease package
- Excellent combination of stem stiffness and resistance
- Mid flowering and medium/late maturity
- Early vigour for rapid establishment





Data sources: AHDB Recommended List, table 16, 2017 Trials * KWS Internal scoring (out of 5) for Verticillium Wilt Tolerance.

Variety Type	C	onvention	al	
	UK	E/W	N	
Gross Output (%)	106	106	104	
Seed Yield (%)	105	106	104	
AGRONOMY				
Shortness of Stem		7		
Lodging		8		
Stem Stiffness		9		
Flowering		6		
Maturity		4		
Oil Content (%)		45.7		
DISEASE				
Light Leaf Spot		6		
Stem Canker		6		
Verticillium Wilt Tolerance*		****		

RGT WINDOZZ



Species: WINTER OILSEED RAPE

End Market: OIL Type: HYBRID

■ The UK's highest yielding hybrid variety (East and West)

GROSS OUTPUT

- Excellent spring vigour
- Early maturity
- Short and stiff stemmed

Early flowering













AGRONOMY

Shortness of Stem	7	
Lodging	8	
Stem Stiffness	8	
Flowering	8	
Maturity	5	

DISFASE

TOLITOL	
Light Leaf Spot	5
Stem Canker	5

QUALITY

44.6
9.6
104

TEMPTATION &DSV Innovation 1 your growth





Temptation joined the Recommended List this December. It has been Recommended for the whole of the UK. It is the first Turnip Yellow resistant variety to be sold by DSV in the UK.

OVERVIEW	UK	E/W	N	
Gross Output (%)	101	102	98	
Seed Yield (%)	101	101	98	
Oil Content (%)		46		

Data sources: AHDB Recommended List 2019/20 Verticillium Wilt score - DSV internal data.



AGRONOMY	E/W	
Autumn Vigour	HIGH	
Spring Vigour	-	
Winter Hardiness	HIGH	
Plant Height (cm)	153	
Earliness of Flowering	6	
Maturity	5	
Lodging	8	
Stem Stiffness	7	

InV1155

DISEASE

Light Leaf Spot	6
Stem Canker	5
Verticillium Wilt Tolerance	HIGH



- Early maturity plus pod shatter tolerance
- Excellent disease resistance
- Suits both the traditional and lower sowing windows

Agronomic data from NL summary 2015/16. Yield and gross output data from BASF trials series 2017/18.



We create chemistry

VARIETY DESCRIPTION

Gross Output (%)	102.2	Low	••••••	High
Seed Yield (%)	101.3	Low	••••••	High
Oil Content (%)	45.2	Low	••••••	High
Autumn Vigour		Low	•••••	High
Winter Hardiness		Low	••••••	High
Earliness of Flowering		Late	•••••	Early
Earliness of Maturity		Late	••••••	Early
Height		Tall	•••••	Short
Lodging Resistance		Low	••••••	High
Light Leaf Spot		Low	••••••	High
Phoma Stem Canker		Low	••••••	High

Gross Output (%)

EAST & WEST

104

NORTH

PT 275

HYBRID 1.5 MILLION SEED PACK



High resistance to lodging
and good stem stiffness

- High gross output in E/W with above average oil content
- Good LLS resistance



9 162

6

6

8

8

AGRONOMIC CHARACTERISTICS

AURUMUMIU UIIANAUILNISIIUS		
Lodging Resistance	8	
Stem Stiffness	8	
Shortness	6	
Earliness of Flowering	6	
Early Maturity	5	
Light Leaf Spot	6	
Stem Canker	5	

THE 'TRIPLE EIGHT' BREAKTHROUGH

AGRONOMIC CHARACTERISTICS

Lodging Resistance

Earliness of Flowering

Plant Height (cm)

Early Maturity

Light Leaf Spot

Stem Canker

AHDB
RECOMMENDED

Oil Content

(%)

45.6

DK EXSTAR

DK EXSTAR combines high yields and oil content with the best agronomy package ever seen in a mainstream OSR variety.

- Vigorous Establishment and Rapid Autumn Growth
- Double Phoma Resistance giving strong resistance to Stem Canker
- Very good resistance to Light Leaf Spot
- Medium earliness of spring regrowth with mid/late flowering
- High yield potential and oil content
- Pod Shatter Resistance



DOUBLE PHOMA RESISTANCE



POD SHATTER RESISTANCE



VIGOROUS ESTABLISHMENT

DK EXTREMUS



VIGOROUS **ESTABLISHMENT**

Proven ability to establish robust, well-rooted plants that are best able to cope with challenging UK conditions.



POD SHATTER RESISTANCE

Genetic resistance that minimises yield loss and volunteer issues caused by seed shedding up to, and during harvest.



DOUBLE PHOMA RESISTANCE

The combination of the RLM7 gene and polygenic resistance provides outstanding, durable resistance to phoma stem canker and flexibility in fungicide application.



EARLINESS SPRING REGROWTH

THE OUTSTANDING NEWCOMER

AGRONOMIC CHARACTERISTICS

Earliness at Regrowth	EARLY
Earliness of Flowering	7
Earliness at Maturity	6
Plant Height	5
Lodging Resistance	8
Stem Stiffness	8
Pod Shattering Resistance	YES
Phoma Resistance	8
Light Leaf Spot	6

DEKALB Private Data (UK and FR) not directly comparable with other sources

Conrad CL

Conrad CL is a high yielding restored hybrid with the Clearfield® herbicide resistance trait. It offers vigorous establishment combined with good winter hardiness & disease

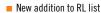
	CONRAD CL	AQUAREL CL	DK IMPERIAL CL	VERITAS CL
Stem Stiffness	7	6	6	5
Plant Height (cm)	156	150	161	153
Earliness of Flowering	5	7	4	4
Earliness of Maturity	7	7	7	6

resistance to safeguard crop potential. Conrad CL also possesses pod shatter resistance, providing growers with the ability to dramatically cut seed losses both before and during harvest. Its gross output is 102% and its oil content is 43.6%.

- Conrad CL has shown very high yield potential in NIAB TAG Clearfield® trials, which suggest that it is competitive with non-Clearfield® varieties on the current AHDB Recommended List.
- Conrad CL is targeted at growers looking for high yield potential every year and in all conditions.
- The variety has a high oil content, enabling growers to maximise returns on their rapeseed crops. Excellent broad leaved weed and volunteer control from clearfield varieties, will potentially reduce the levels of erucic acid contamination, helping to avoid quality claims and rejections.

PT 279 CL





New addition to IVE 113t
Relatively early maturing

- High resistance to lodging and good stem stiffness at maturity
- No notable agronomic weaknesses. widely adapted to different parts of the UK

Gross Ou	ıtput (%)	Oil Content
NORTH	EAST & WEST	(%)
93	96	45.0



AGRONOMIC CHARACTERISTICS

Lodging Resistance	8
Stem Stiffness	8
Shortness	6
Earliness Flowering	6
Early Maturity	6
Light Leaf Spot	6
Stem Canker	5

DK IMPORTER CL

- New Clearfield Introduction for 2019
- Slightly shorter than DK Imperial CL with better Stem Stiffness
- Very good resistance to Stem Canker with moderate Light Leaf Spot Resistance



VIGOROUS ESTABLISHMENT



RAPID AUTUMN DEVELOPMENT



DOUBLE PHOMA RESISTANCE



POD SHATTER RESISTANCE

AGRONOMIC CHARACTERISTICS

Lodging Resistance	8
Stem Stiffness	7
Plant Height (cm)	158
Earliness Flowering	5
Early Maturity	6
Light Leaf Spot	5
Stem Canker	9

Data Source: National List 2 Year Summary 2018

17 16

Crome

Crome has a Specific Recommendation by AHDB for both East/West and North regions in 2019/20. It is resistant to common strains of clubroot, has a high gross output, is early maturing, with a very high oil content and yield, and good agronomic characteristics.

- Crome has high seed yield combined with very high oil content to give high gross output
- Crome has good resistance to Light leaf spot
- Crome has good stem stiffness and resistance to lodging and is of medium height
- Crome is a medium maturing variety





GROSS OUTPUT, AGRONOMIC CHARACTERISTICS, DISEASE RESISTANCE AND SEED CHARACTERS

	CROME RH Sp E/W & North	MENTOR RH Sp E/W & North
Gross Output (UK) as % of control	102	96
Resistance to lodging	8	8
Stem stiffness	8	9
Plant height (cm)	156	150
Earliness of flowering	7	7
Earliness of maturity	5	5
Resistance to light leaf spot	6	6
Resistance to stem canker	(4)	3

Data source: AHDB Recommended List of Winter oilseed rape 2019/20.

1-9 scales where a high figure indicates that the variety has the character to a high degree.

V316OL HOLL Variety

- Available with a United Oilseeds buy-back contract with a £25.00/t minimum guaranteed premium plus quality bonuses
- High gross output with Low Linolenic acid and High Oleic acid content
- Good autumn vigour, medium early flowering and mid maturity
- Good all round disease resistance
- Top 4 AHDB RL variety for four consecutive years

AGRONOMIC PROFILE

Earliness Flowering	Mid Early	7
Earliness Maturity	Mid	5
Shortness of Stem	Mid-Tall	6
Lodging Resistance	Very Good	8
Stem Stiffness	Very Good	8

DISEASE RESISTANCE

Stem Canker	Good	5
Light Leaf Spot	Good	6

Data from AHDB Recommended lists 2019/20 Full dataset available from https://cereals.ahdb.org.uk

YIELD AND OIL PERFORMANCE

Gross Output (%)	High	102*
Oil Content (%)	High	45.4

* Average gross output over four years — Data from AHDB Recommended lists 2018/19 and 2019/20 Full dataset available from https://cereals.ahdb.org.uk

OIL PROFILE

AHDB

RECOMMENDED



Data extracted from internal European HOLL Network Trials 2014

Seed Dressings for Autumn 2019

This season, there are number of seed dressings available to growers. Some of the dressings are available on certain varieties only.

The table below lists these seed dressings and if you would like further information regarding the usage and performance of each, please contact your local United Oilseeds Area Manager or our Head Office on 01380 729 200.



Seed Dressing	Actives/ Ingredients	Description
Thiram, Thyram Plus	Thiram	Fungicide: Controls Pythium complex (damping off) and Botrytis.
Scenic Gold	Fluopicolide +Fluoxastrobin	Fungicide: Phoma leaf spot/stem canker (damping off, seedling blight, early phoma), Downy Mildew, Leaf Spot (seedling blight, early leaf spot), Rhizoctonia (damping off post emergence). Only available on Dekalb varieties this year.
Integral-Pro	Bacillus amyloliquefaciens	Biological Fungicide: Useful <i>Phoma lingam</i> reduction, stimulates plant growth and better vigour after winter. (limited: reduction of <i>Verticillium</i> symptoms. <i>Rhizoctonia</i> and <i>Alternaria</i> disease reduction. CSFB — better establishment may help in low pressure areas). From BASF.
Lumiposa	Cyantraniliprole	Insecticide: Fast acting protection (impairs muscle function resulting in paralysis 40-60hrs after ingestion) up to BBCH 13 or 14 against Cabbage Stem Flea Beetle, Cabbage Flea Beetle, Cabbage Root Fly and Turnip Sawfly.
Lumibio Kelta	Micro nutrients and organic acids	Bio Stimulant: Root growth promotion. Stimulates early crop establishment leading to better crop development and improved nutrient uptake. Only available on Pioneer varieties.
Detonator	Macro and Micro nutrients, trace elements	Helps early plant establishment by providing essential nutrients at early establishment.
Acceleron	B-300, Integral-pro	Available on Dekalb Products only.

Oats — Opportunities in a Growing Market



By David Whyte Commodity Trader, United Oilseeds



Why grow winter oats?

Oats are among the healthiest grains on Earth. They are a gluten-free, whole grain and a great source of important vitamins, minerals, fibre and antioxidants. The health benefits can include weight loss, lower blood sugar levels and reduced risk of heart disease. This is now a growing market as people look to have healthier diets.

From a farming perspective, oats offer a break crop opportunity which helps control take all and allows growers to maintain focus on maximising first wheats. Grass weeds such as Blackgrass, Wild Oats and Brome can be a problem for oats, so field selection needs to be taken into account. The preferred variety of choice is Mascani, as it offers a good all round agronomic package and produces a quality oat with good specific weight and usually lower screenings. Other varieties on the AHDB list can be grown, but advice should be be taken to ensure the contract qualities can be achieved.

The Market

The forecast area for the 2019 crop is 190,000 ha, up 10% on 2018, so marketing becomes more important. To contract or not to contract? That is the question!

Buyback contracts offer growers the ability to price when the buyer may not want too. These contracts are usually available well in advance of drilling and are based around the November wheat futures.

With the oat area increasing, it is a good way to put some structure in to your marketing and reduce some of the pricing risk. Open market oats will be traded, however, market forces will dictate prices. Over supply could see prices lower than contracted prices, as there is little structure.

Movement/Storage

Movement is at Buyers Call, however, we make every effort to get oats moved in the period requested by the grower. Oats do need to be looked after in-store. If they are stored damp, you will find mite becoming an issue. All oats should be put over a pre cleaner at least, to remove any weed seeds and small screenings. This will improve the quality reducing the chances of issues on delivery.

For details on oat contracts call 01380 729 200 or speak with your local United Oilseeds Area Manager (see page 23).

The Best Grass Mixes from Hubbards Seeds



Grass mixtures from specialist supplier Hubbards seeds offers farmers ideal solutions for all their short, medium and long term ley requirements.

All Hubbards grass seed mixes are bred in the UK and are tried, tested and proven with British Farmers. "Hubbards Seeds grass mixes are formulated in the UK and are created to provide farmers with high performance and continuous improvement," says Barnaby Patchett, Business and Product Manager.

Top Cut and Top Cut Red Clover are bestselling mixes that can be cut several times a year and offer high yields for short term leys. For medium term leys, Flexisward is a flexible 3-4 year mixture for silage and grazing providing a versatile choice of management systems.

Farmers looking for grass mixes for longer term leys of five years and over will find the high performance and high quality Smithfield and Greensward varieties ideal for their purpose. Dry and drought prone areas can be repaired and maintained with Hubbards Special Drought Mixture, whilst Equipaddock will repair and maintain the wear experienced in horse and pony enclosures.

Only the highest quality seeds from Hubbards









- GRASS SEED: Mixtures: Short, Medium and Long Term levs
- GAME COVER: Mixtures; Straights, Maize, Millet, Sorghum
- FORAGE: Forage Maize, Beet, Rape, Swedes, Kales, Stubble Turnips
- AMENITY: Lawns, Paddocks, Wildflowers
- ENVIRONMENTAL: Wild Bird Seed Mixtures
- GREENING AND SOIL IMPROVEMENT: Mixes



Hubbards sources and supplies only the very best quality seeds — ordering and delivery is quick and efficient. To order, speak to your local United Oilseeds Area Manager or call 01476 593 195.

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Autumn 2019 edition

ELMS — A New Era for Farming By Tom Bradshaw, Chairman, Combinable Crops Board, NFU

Government has described the new environmental land management (ELM) system as one that will "bring in a new era for farming, providing an income stream for farmers and land managers who protect and preserve our natural environment". The Health and Harmony statement also said that farmers would be able to decide for themselves how to deliver environmental benefits from their businesses and their land.

But what does this mean? As with many areas at the moment, we are still awaiting more detail. The discussions started with a blank sheet of paper. encouraging everyone to consider how they can deliver environmental outcomes such as clean air and clean water. There is a desire within Defra to move away from the traditional thinking of options with prescriptions to a more flexible approach where the farmer decides how best to deliver the outcome.

This does raise a set of key questions that need to be bottomed out. What will I be paid for? How much will payments be worth? How will I be monitored? It looks like I'll have park these questions for now as we're unlikely to get these details for some months, if not years.

However a new approach does provide an opportunity to think differently.

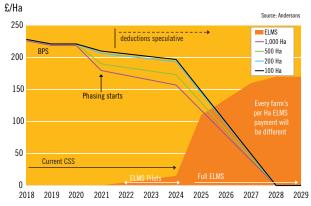
Farmers care for the environment on a daily basis – just think of all the hedges currently in flower which provide for pollinators and their seeds which offer vital fuel for birds in winter. Why not further this thinking about how we support pollinators across our farms and landscapes? Many of our crops provide pollen and nectar. OSR is an obvious example providing an early pollen source alongside our hedges, and we then have later flowering crops providing pollen across the summer.

With a bit of innovative thinking I see no reason why flowering crops could not form part of a future ELM scheme as they support pollinators and deliver environmental benefits which help wildlife thrive. But how would payments be calculated? If government established an outcomes-based system, how would the impact on pollinators be measured? If we go for a results-based approach. would this mean counting the number of flower heads in a sample area? For most farmers, first and foremost the new system must be practical, and when it comes to growing OSR the current challenges and risks involved must be taken into account.

As you can see, this is about starting the debate rather than having all the answers. Whatever happens this would be one part of a bigger scheme that all farmers can access.

Future Support Summary

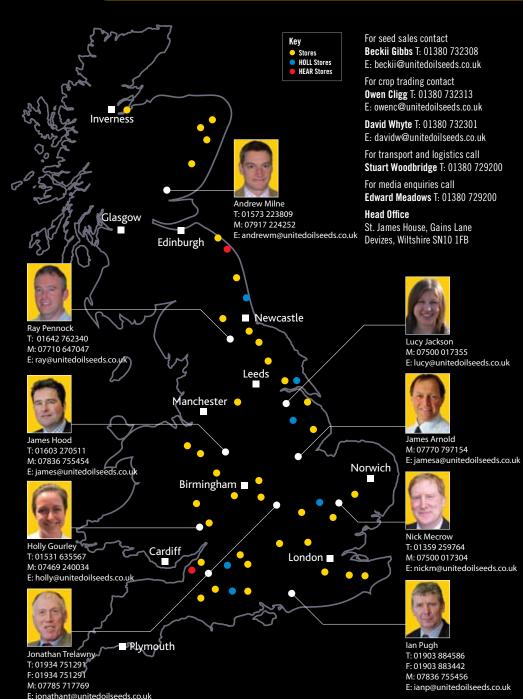
Possible English Payment Rates - 2018 to 2029







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Close the **Clearfield**® yield gap with **Phoenix CL**

Agronomists like the science of Clearfield® hybrid OSR varieties:

- Inbred tolerance to Clearfield® herbicides for outstanding control of the widest range of problem weeds including charlock, runch, hedge mustard and shepherd's purse.
- 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.





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Innovation for your growth