



HIGH OIL CONTENT OILSEED RAPE

## ADVANCED DISEASE RESISTANCE

**Es Cubic** has excellent resistance to *Verticillium* wilt

First identified in 2007 in Kent and Herefordshire, this soil borne disease has spread rapidly across the UK and has now been seen in crops as far north as Yorkshire.

The disease favours warm springs and there is no proven chemical control.



Symptoms of *Verticillium* wilt (photo courtesy of ADAS)

	% plants with <i>Verticillium</i> wilt	Yield t/ha at 9% moisture
<b>Es Cubic</b>	<b>5.3</b>	<b>5.7</b>
Castille	20.0	4.16

ADAS *Verticillium* wilt data

Over the past 4 years trial work has been carried out by ADAS in conjunction with HGCA to look at varietal resistance to this increasingly important disease in UK rape crops.

The disease is already a significant problem across many areas of Europe and can lead to heavy yield losses due to premature ripening and plant death.

Grow a more resistant variety such as **Es Cubic** to avoid potentially significant yield losses through premature ripening.

## ADVANCED YIELD PERFORMANCE

**Es Cubic** has high yields and good oil content over a wide range of sites and growing years.

Fulbourn, Cambridgeshire	Gross Output @ 9% moisture	% Site Mean	3 Year Mean	Seed Yield t/ha @ 9% moisture	% Site Mean	Oil Content % @ 9% moisture
<b>Es Cubic</b>	<b>4.26</b>	<b>107</b>	<b>106</b>	<b>3.91</b>	<b>106</b>	<b>45.9</b>
Sesame	4.10	103	104	3.76	102	46.0
DK Cabernet	3.98	100	103	3.69	100	45.4
Excalibur (hybrid)	3.75	94	92	3.55	96	44.0

Morley, Norfolk	Gross Output @ 9% moisture	% Site Mean	2 Year Mean	Seed Yield t/ha @ 9% moisture	% Site Mean	Oil Content % @ 9% moisture
<b>Es Cubic</b>	<b>4.64</b>	<b>104</b>	<b>105</b>	<b>4.38</b>	<b>105</b>	<b>44.0</b>
DK Cabernet	4.55	102	103	4.28	103	44.2
Excalibur (hybrid)	4.43	99	104	4.17	100	44.1
Sesame	3.48	78	98	3.30	79	43.5

Source: NIAB TAG Variety Trials 2013



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**Blast off!... with MAXIMUM vigour oilseed rape varieties**



Being a direct descendant of Es Astrid, Es Cubic can claim its position as the on farm favourite high oil, low biomass rape variety

### Harvest benefits of Es Cubic

- Low Biomass – height 144cm
- Good high output 104%
- Good Oil Content
- Very Early Seed Maturity
- Excellent resistance to *Verticillium* wilt

### Agronomic benefits of Es Cubic

- **Excellent autumn vigour**
- Very high multigene Stem Canker resistance
- Good Stem Stiffness
- Early Flowering

Looking for a high yielding, Low Biomass Conventional Winter Oilseed Rape?  
 Don't want to risk later harvest, lodged crops or higher fungicide inputs? **then grow Es Cubic**



## Cubic facts and figures

Treated Yield	104%	Earliness of flowering*	7
Oil Content	45.0	Earliness of maturity*	7
Height	144 cm	Resistance to Light Leaf Spot*	5
Resistance to lodging*	8	Resistance to Phoma Stem Canker*	7
Stem Stiffness*	8	Multi-gene resistance to Phoma	Excellent

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





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## ADVANCED COST-EFFECTIVE MANAGEMENT

### Drilling techniques – Direct drilling



Cambridge Arable Technologies carried out trial work using Es Cubic. This work was looking at the benefits of direct drilling using a Claydon Drill, something which many growers have benefited from in difficult autumn conditions on heavy soil types.



The Claydon drill or similar system allows superior rooting and plant establishment having removed any compaction through the soil profile.

Drilling technique	Yield t/ha	<b>Cambridge Arable Technologies</b> <i>Practical solutions for professional farming</i>
Conventional	5.3	
Direct	5.7	
Yield when direct drilled with Claydon Drill		<b>107%</b>

### Excellent autumn vigour

### Hampshire GAI assessments

	19 Nov	21 March	24 April
<b>Es Cubic</b>	<b>0.63</b>	<b>1.14</b>	<b>2.84</b>
Cabernet	0.48	0.75	1.76
Sesame	0.38	0.64	1.63
Excalibur (RH)	0.67	1.19	2.76

When comparing the green area index of Cubic against other commercially grown varieties you can see that Cubic was ahead in GAI of the other varieties producing similar growth to even the best hybrid. Each unit of GAI equates to 50kg N/ha contained in the crop.



**Blast off!... with MAXIMUM vigour oilseed rape varieties**



With an increased risk of pest attack on this year's crops due to the loss of neonicotinoid seed treatments consideration must be given to varietal traits that may help to minimise plant losses and aid establishment.

Choose a variety with good vigour to ensure the best possible chance of establishing enough strong plants to survive through the winter.



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## ADVANCED DISEASE RESISTANCE

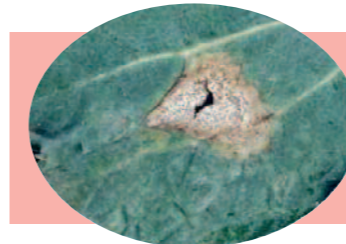
### Good Light Leaf Spot resistance

Es Cubic has a LLS resistance of 5.1. This combines with the 7.1 Stem Canker resistance rating to give an excellent all round package of disease resistance. This high combined disease resistance makes Es Cubic suitable for growing in all regions of the UK.



Light Leaf Spot infection on leaves and stems

As a direct descendant from Es Astrid, Cubic has a phoma resistance rating of 7 plus the same multigene resistance.



### Growers spray at 10% autumn Phoma leaf spotting

Yield loss maybe up to 50%, but 0.5-1t/ha is common when control has been lacking.

HGCA rating  
**Es Cubic = 7.1**  
+ multigene benefit

According to Dr Faye Ritchie of ADAS an HGCA rating of 7 or above reduces the need for a fungicide. Each HGCA disease rating is worth £20/ha to growers.

### Phoma is the most significant disease in the UK

Phoma Stem Canker remains the most common and costly disease in UK Oilseed rape crops. 60% of the national crop is grown in the high risk areas for Phoma.

All growers apply autumn fungicides to control Phoma. In a wet autumn early fungicide application is essential on varieties with poor resistance.

Es Cubic has a high disease resistance to Phoma reducing pressure on autumn sprays and giving growers more flexibility in timing at a busy time of the year.

### Historic incidence of Phoma

Incidence of Phoma Summer assessment 2002 - 2011

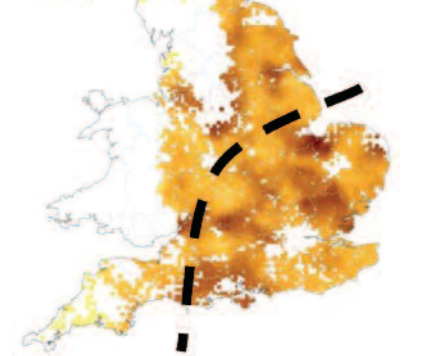


Image from CropMonitor, Food and Environment Research Agency. © Crown Copyright 2013

Es Cubic, Alienor, Astrid, and Alegria with their high multigene resistance within the plant provide inherent resistance to the fungus reducing risk of yield loss from Phoma stem canker and giving growers more flexibility and control.