



Autumn 2018

planning forward

REVEALING
The latest ProCam 4Cast results

AGRONOMY THAT DELIVERS®

Key points

- The top 25% of growers grew a higher proportion of break crops in rotations e.g. winter oilseed rape (which was also the most profitable combinable crop on ProCam 4Cast in 2017)
- The top 25% of growers did less ploughing and used non-inversion tillage more
- The top 25% of growers were growing more quality wheat and less Group 4 feed wheat in rotations
- The top 25% of growers were drilling winter wheat later
- The top 25% of growers had a similar proportional spend on seed, fertiliser and sprays as the 75% majority, and were using similar types of sprays, but may actually be spending less on inputs overall
- Evidence suggests the top 25% apply greater attention to detail – e.g. with timing of cereal fungicides (with less eradicant activity, timely application is more important)



ProCam 4Cast

bringing you a clearer picture



For many years, farmers have asked how their crops have performed compared to others?

And for good reason.

Having this information available lets you gauge how much you can improve. Or even whether it's possible to improve.

Which was why ProCam first began gathering farm data 23 years ago.

Today, with more than 500,000 hectares of data under its belt, ProCam 4Cast has grown into an invaluable tool to help ProCam customers benchmark their businesses.

But it also provides much more.

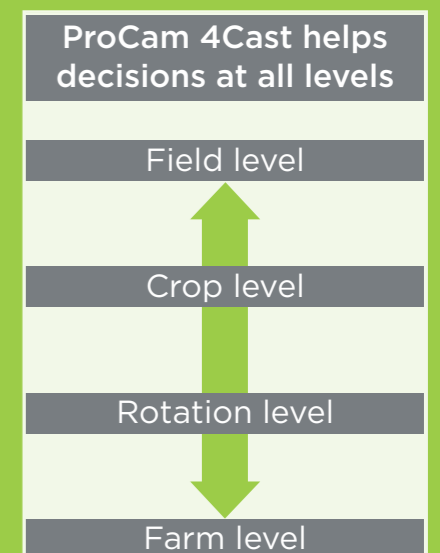
Informing decisions

By providing a 'big picture' of what's happening with rotations, crops and inputs over thousands of hectares on real farms, it also offers ways to analyse trends, better inform decisions, and even provide an early warning of potential crop challenges prior to identifying practices that can help.

All of which are set to become increasingly important in the unknown waters of Brexit.

This report provides an overview of latest ProCam 4Cast findings covering up to harvest 2017.

At ProCam we believe there are huge opportunities for farms to make gains. Be part of our vision.



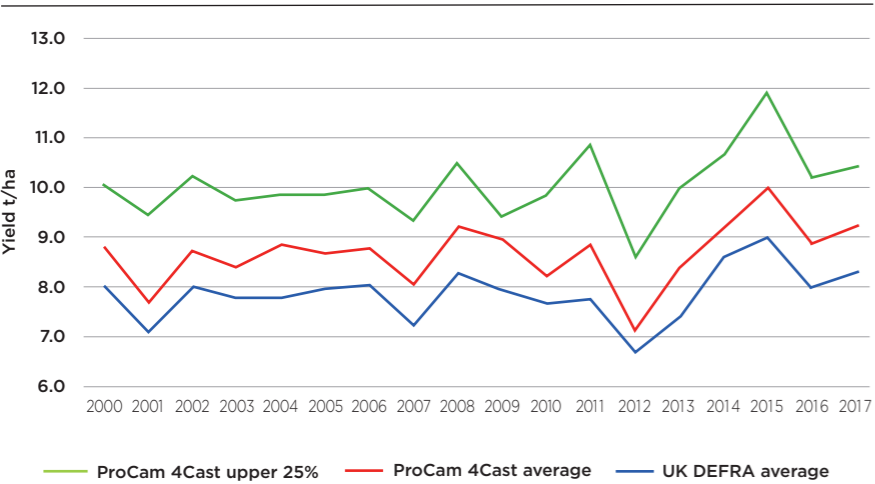
KNOWLEDGE
NOT INFORMATION.

SOLUTIONS
NOT INPUTS.

PEOPLE
NOT PROCESSES.

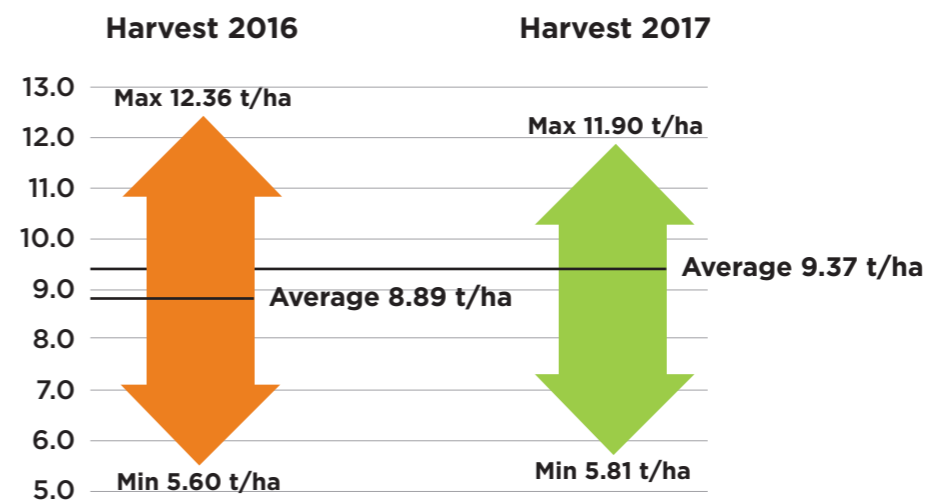
Long-term yield trends

Winter wheat - ProCam 4Cast yields vs. DEFRA national average 2000 - 2017



Average and top 25% winter wheat yields achieved by ProCam 4Cast growers have exceeded DEFRA average yields for the last 18 years.

ProCam 4Cast range and average winter wheat yields



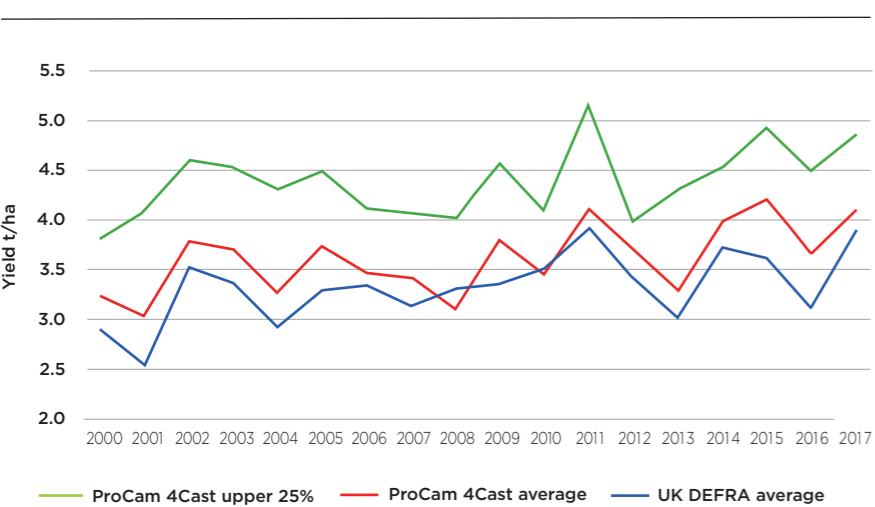
The average winter yield on ProCam 4Cast was higher in 2017 than in 2016 and there was noticeably less yield variation.

This was consistent with the higher levels of sunlight in the important June period during 2017, compared with a dull June in 2016.

Latest results from 2017

	Average	Top 25%
ProCam 4Cast yield	9.2 t/ha	10.4 t/ha
Gain over DEFRA average yield (of 8.3 t/ha)	0.9 t/ha	2.1 t/ha
Value of ProCam 4Cast gain (at £150/t)	£135/ha	£315/ha

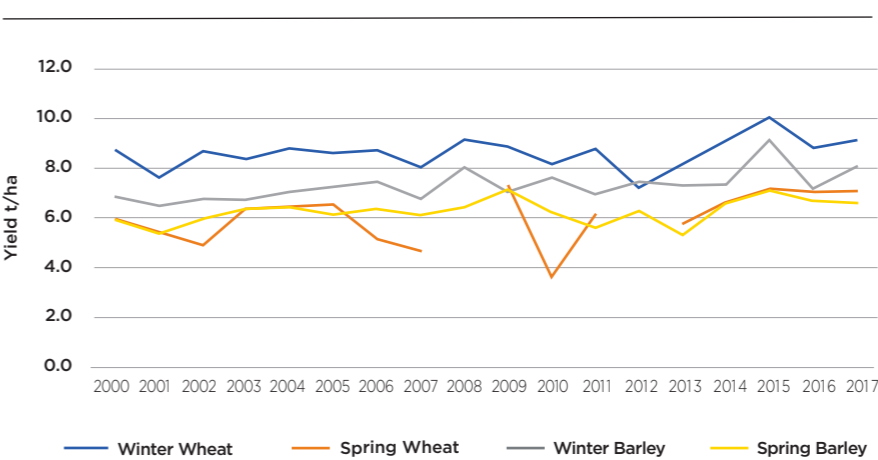
Winter oilseed rape - ProCam 4Cast yields vs DEFRA national average 2000 - 2017



Similarly, the top 25% of winter OSR yields produced by growers on ProCam 4Cast have consistently exceeded DEFRA average yields for the past 18 years.

Average WOSR yields on ProCam 4Cast have exceeded the UK DEFRA average for 16 out of the last 18 years.

ProCam 4Cast - variations in average cereal yields 2000 - 2017



ProCam 4Cast results show yields of the major cereal crops have remained relatively consistent over the last 18 years.

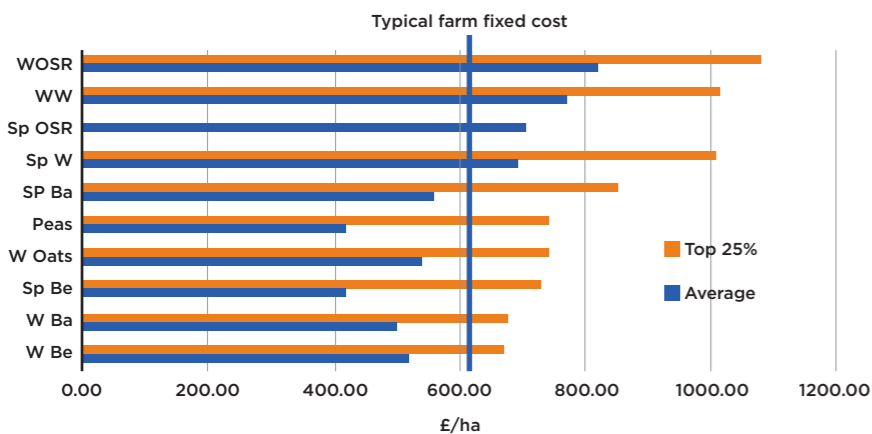
Arguably the biggest yield gain has come in winter barley, possibly due to more hybrid barley being grown.

Spring wheat omitted in some years as not always recorded.

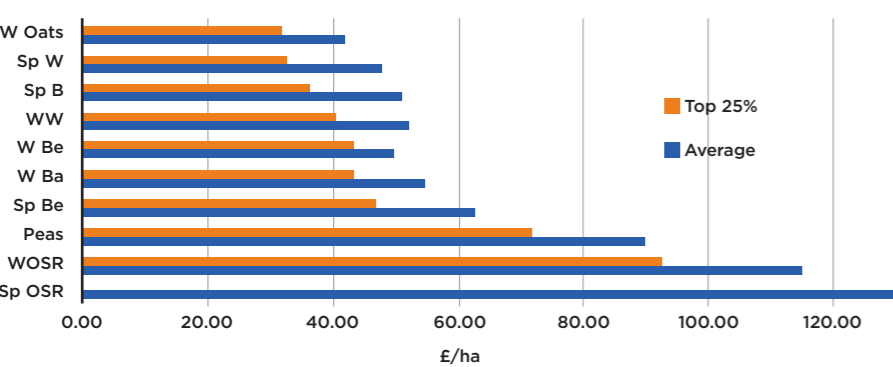


Crop profitability

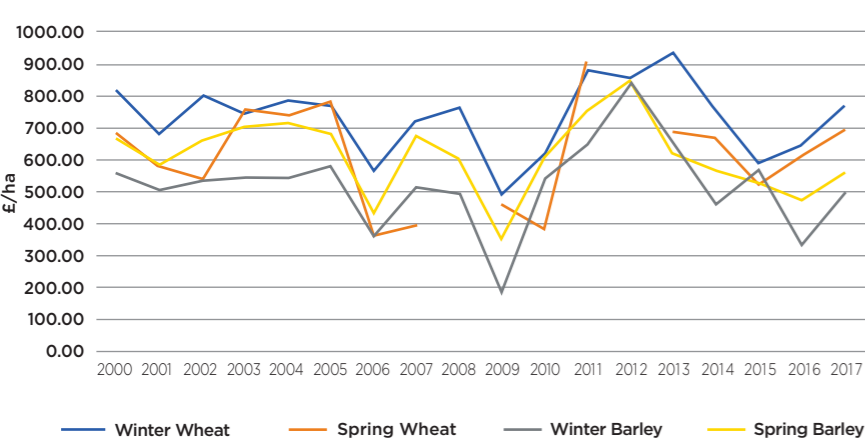
ProCam 4Cast combinable crop profitability - Harvest 2017



ProCam 4Cast crop costs of production per tonne - Harvest 2017



ProCam 4Cast average cereal crop gross margins 2000 - 2017



For harvests 2017 and 2016, winter oilseed rape was the most profitable combinable crop on ProCam 4Cast – despite flea beetle concerns.

Compared with typical fixed costs of £600/ha, only winter and spring OSR and winter and spring wheat were profitable at average gross margin performance.

This underlines the importance of top-level agronomy to raise the profitability of all crops towards the top 25% to avoid relying on support payments.

Cost of production per tonne is a function of the amount spent on the crop (cost/ha) and final yield. If crops have been managed well to produce high yields, cost of production falls. If inputs are cut back to the extent that yield suffers, cost of production increases.

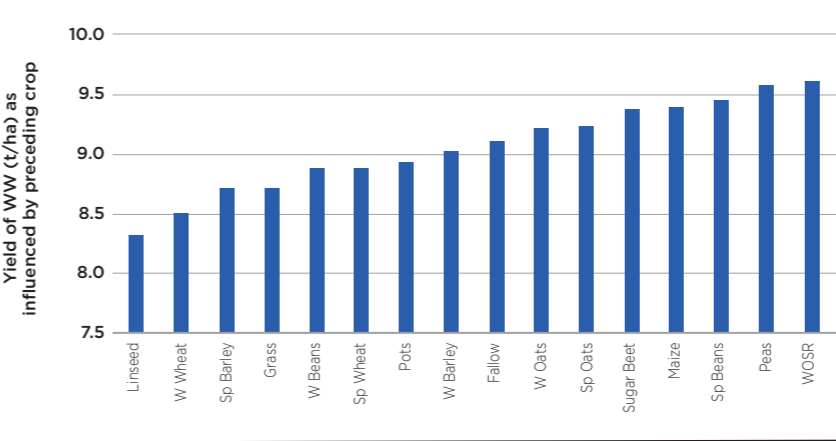
Gross margins for spring crops have been shown to be fairly close to those of their winter counterparts – probably due to lower growing costs.

Spring barley can be more profitable than winter barley because it is often grown for malting.

Spring crops are also often grown for blackgrass management, which can also positively affect the bottom line e.g. by reducing herbicide spend.

Influence of previous crop on yield

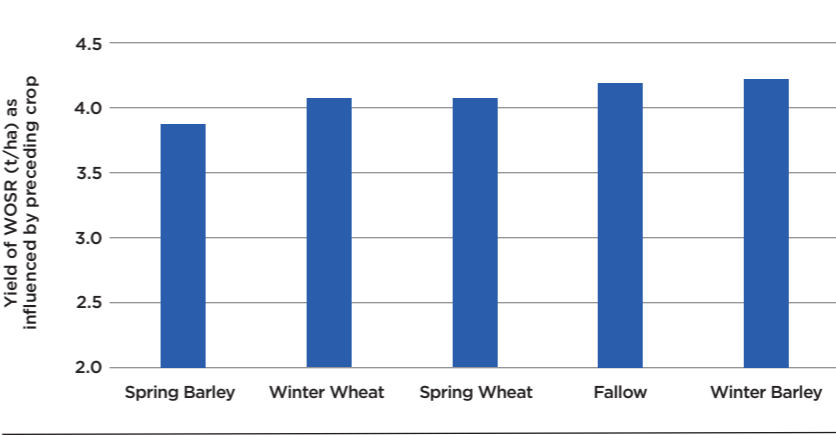
ProCam 4Cast influence of preceding crop on yield of winter wheat - Harvest 2017



As well as examining single-year crop profitability, understanding the impact of the previous crop is also crucial when planning a profitable rotation.

Winter oilseed rape has been at or near the top as the best preceding crop to maximise winter wheat yield for the last two seasons.

ProCam 4Cast influence of previous crop on yield of winter OSR - Harvest 2017



However, anecdotal evidence from growers has suggested WOSR yields have been lower after spring barley than after other crops, and latest ProCam 4Cast results concurred with this.

This could be due to a number of factors – e.g. lower levels of residual nutrients after spring barley plus less time for trash to degrade after its later harvest date causing lock up of N, or possibly sulfonylurea residues.

This is important to know, not to get rid of spring barley, but so WOSR agronomy can be adapted accordingly – e.g. correcting nutrient issues to help WOSR establishment, or growing a Clearfield variety.



Benchmarking

ProCam 4Cast winter wheat gross margin league table - top 25 farms - Harvest 2017*

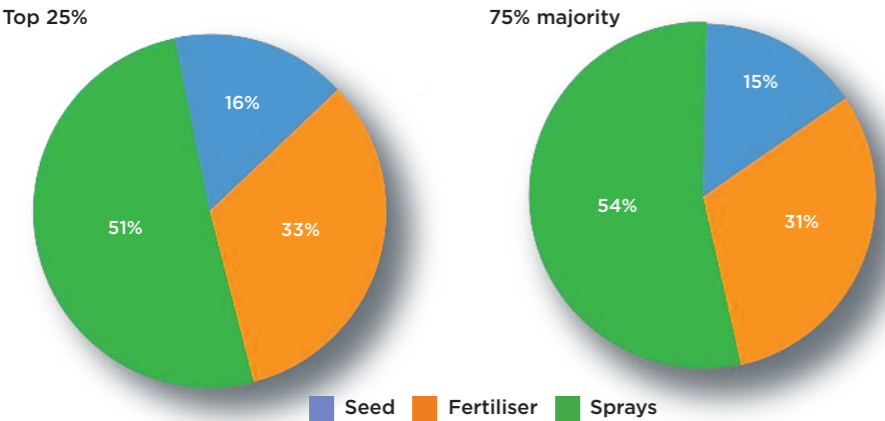
Farm Number	Crop Area ha	Yield t/ha	Variable Costs £/t	Variable Costs £/ha	Output £/ha	Gross Margin £/ha
1	72.00	11.02	37.60	414.26	1505.87	1091.60
2	50.53	11.72	47.25	553.59	1640.29	1086.70
3	179.85	10.72	36.32	389.57	1453.81	1064.24
4	62.51	10.35	39.10	404.71	1449.00	1044.30
5	113.44	11.21	37.93	425.16	1457.30	1032.14
6	131.34	8.82	30.55	269.44	1278.90	1009.46
7	115.51	11.38	43.17	491.08	1499.38	1008.30
8	60.51	10.70	40.60	434.53	1431.01	996.48
9	139.37	10.44	49.62	518.21	1514.41	996.21
10	66.20	11.36	42.78	485.85	1476.41	990.57
11	77.81	11.76	46.62	548.23	1528.80	980.57
12	108.55	10.15	34.72	352.45	1319.50	967.05
13	282.20	9.80	41.19	403.64	1357.38	953.74
14	112.27	9.88	38.82	383.58	1333.80	950.22
15	178.36	10.15	36.84	373.81	1319.22	945.41
16	87.82	9.75	39.92	389.27	1330.88	941.61
17	122.95	10.17	43.98	447.13	1372.51	925.38
18	167.72	9.88	42.94	424.19	1344.76	920.56
19	68.56	9.38	43.19	405.11	1324.93	919.82
20	88.84	9.97	43.98	438.56	1348.76	910.21
21	139.01	8.80	33.48	294.75	1202.76	908.02
22	114.30	9.40	48.47	455.73	1363.31	907.58
23	92.93	9.73	40.00	389.36	1282.83	893.47
24	59.42	10.11	42.34	428.06	1314.30	886.24
25	172.82	10.37	58.87	610.41	1481.62	871.20

A key benefit of having access to ProCam 4Cast is being able to benchmark how your crop gross margins rank in relation to others – so growers can assess potential headroom to improve. (Farm identities kept anonymous. We take privacy seriously.)

Similarly, it is possible to identify where your crop ranks for expenditure on inputs.

*Full league table lists are available to all ProCam 4Cast members. Interested in becoming a member? It's free and you don't have to be a ProCam customer. We can import previous years' data to give you your own confidential information.

ProCam 4Cast percentage distribution of variable cost spend - Harvest 2017

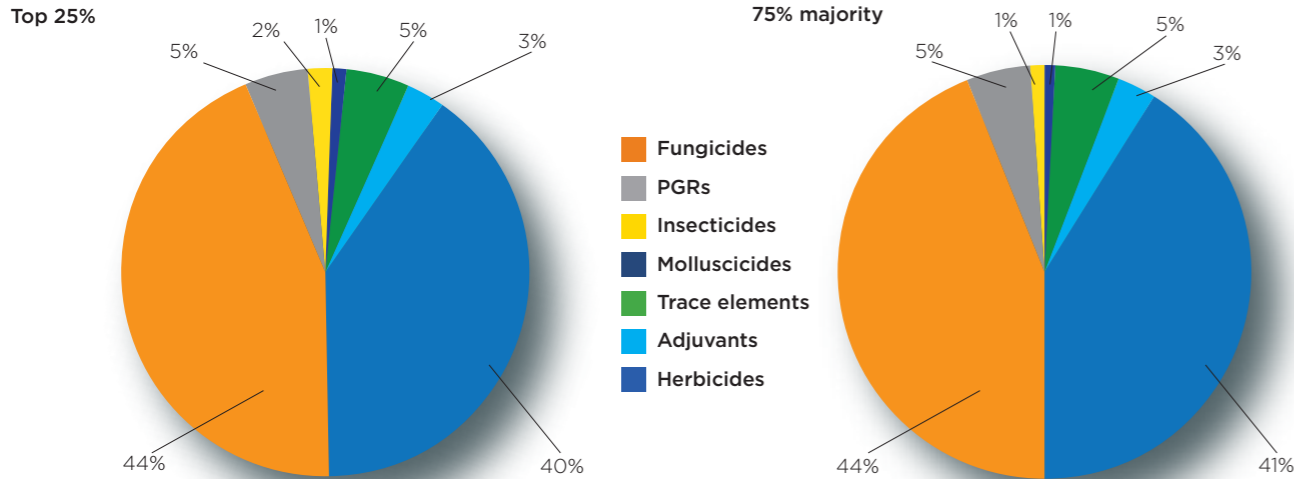


Last harvest showed there was relatively little difference in the splits of expenditure between seed, fertiliser and sprays between the top 25% of growers and the 75% majority.

There was also little difference between how the two groups invested in types of sprays (below).

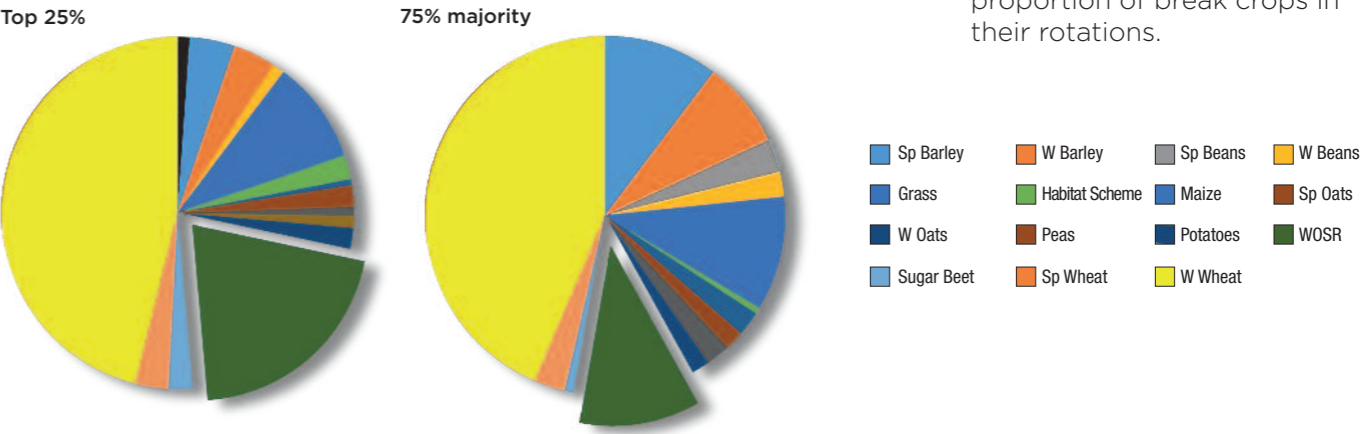
This pattern has been seen over a number of years.

ProCam 4Cast percentage distribution of spend on sprays - Harvest 2017



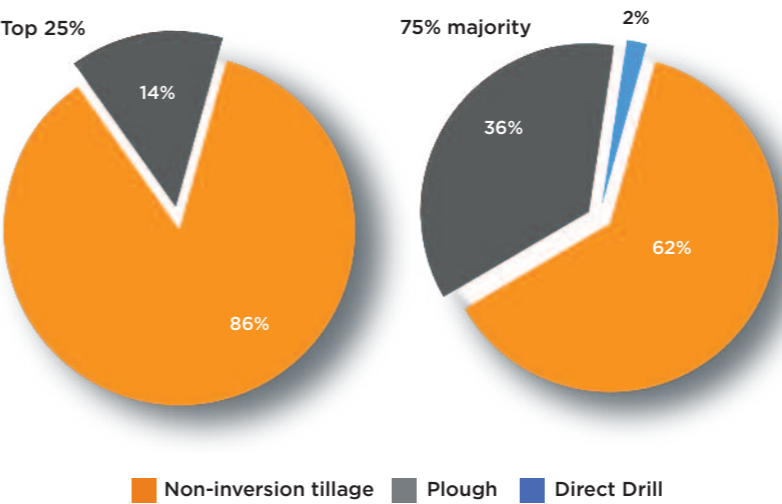
Benchmarking – crops, varieties and cultivations

ProCam 4Cast cropping - Harvest 2017



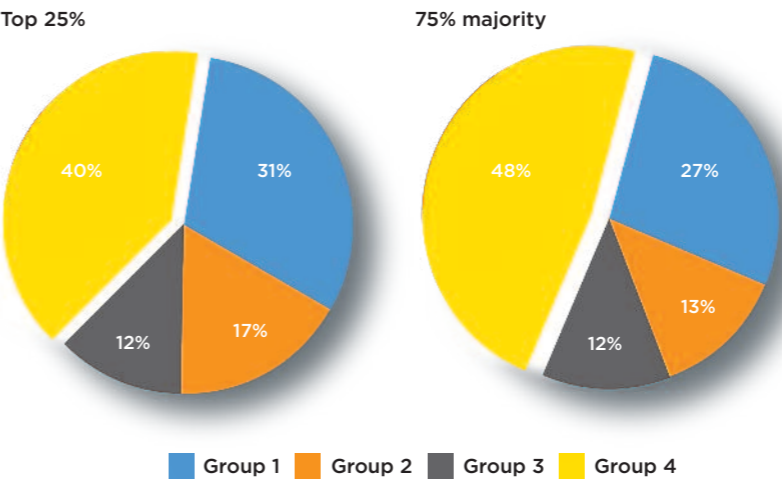
The top 25% of growers on ProCam 4Cast grew a higher proportion of break crops in their rotations.

Comparison of cultivation types used - Harvest 2017



The top 25% of growers on ProCam 4Cast did less ploughing and used non-inversion tillage more.

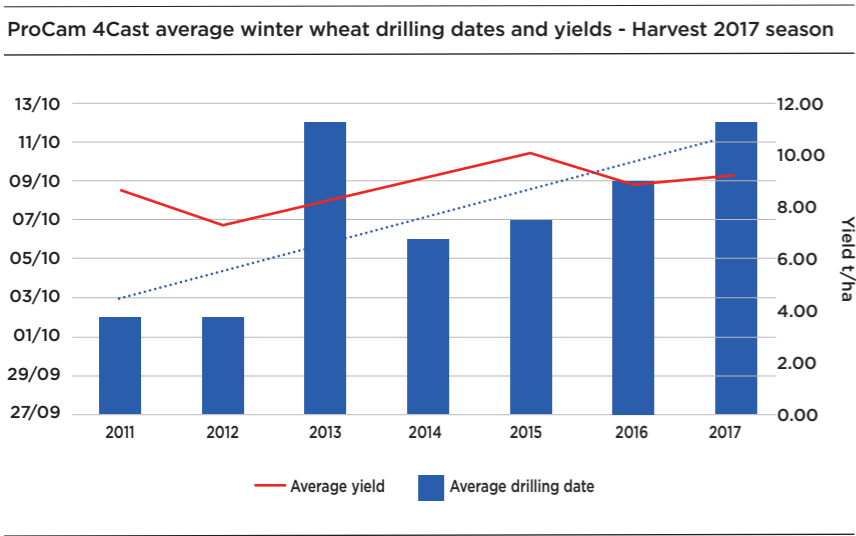
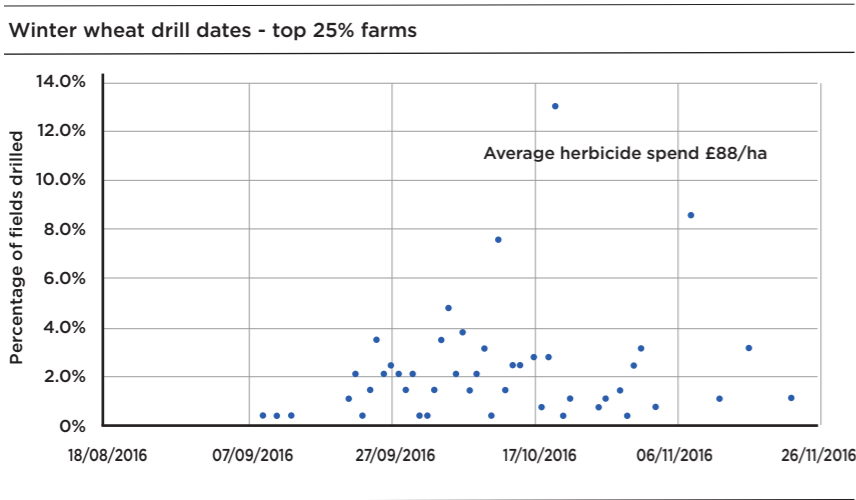
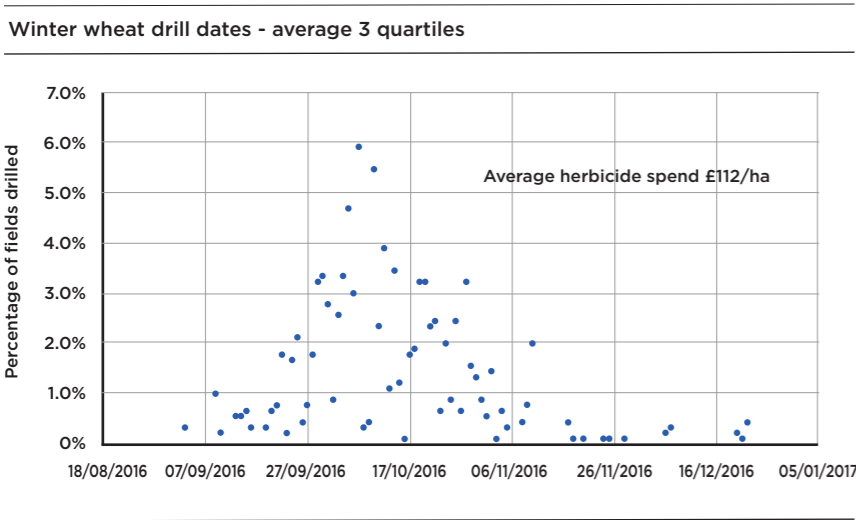
Comparison of nabim wheat groups grown - Harvest 2017



The top 25% of growers on ProCam 4Cast grew a higher proportion of quality wheat in their rotations and less Group 4 wheat.

ProCam 4Cast also allows comparisons of gross margins between different winter wheat varieties (in first and second wheat situations) and between different varieties of winter oilseed rape.

Benchmarking - drilling dates



As seen the previous season, the top 25% of farms started drilling later and finished drilling earlier than the 75% majority in the season ending harvest 2017.

The peak drilling date for the top 25% of farms was also later than for the 75% majority in the harvest 2017 season, and they had a lower average herbicide spend.

This continues to suggest greater efficiency, with the top 25% being geared up to drilling when conditions were optimal – possibly aided by greater use of minimum tillage.

Latest results from ProCam 4Cast also showed that while average drilling date had shifted from 2 October to 12 October between the harvest seasons of 2011 and 2017, yield hadn't declined.

This is encouraging when managing blackgrass – the thinking is that any yield loss from later drilling is being offset by having less blackgrass germinating in the crop.

Impact of drilling date on yield may also be useful to know if using delayed drilling to reduce BYDV risk in the absence of neonicotinoid seed treatment chemistry in future.

How ProCam 4Cast works

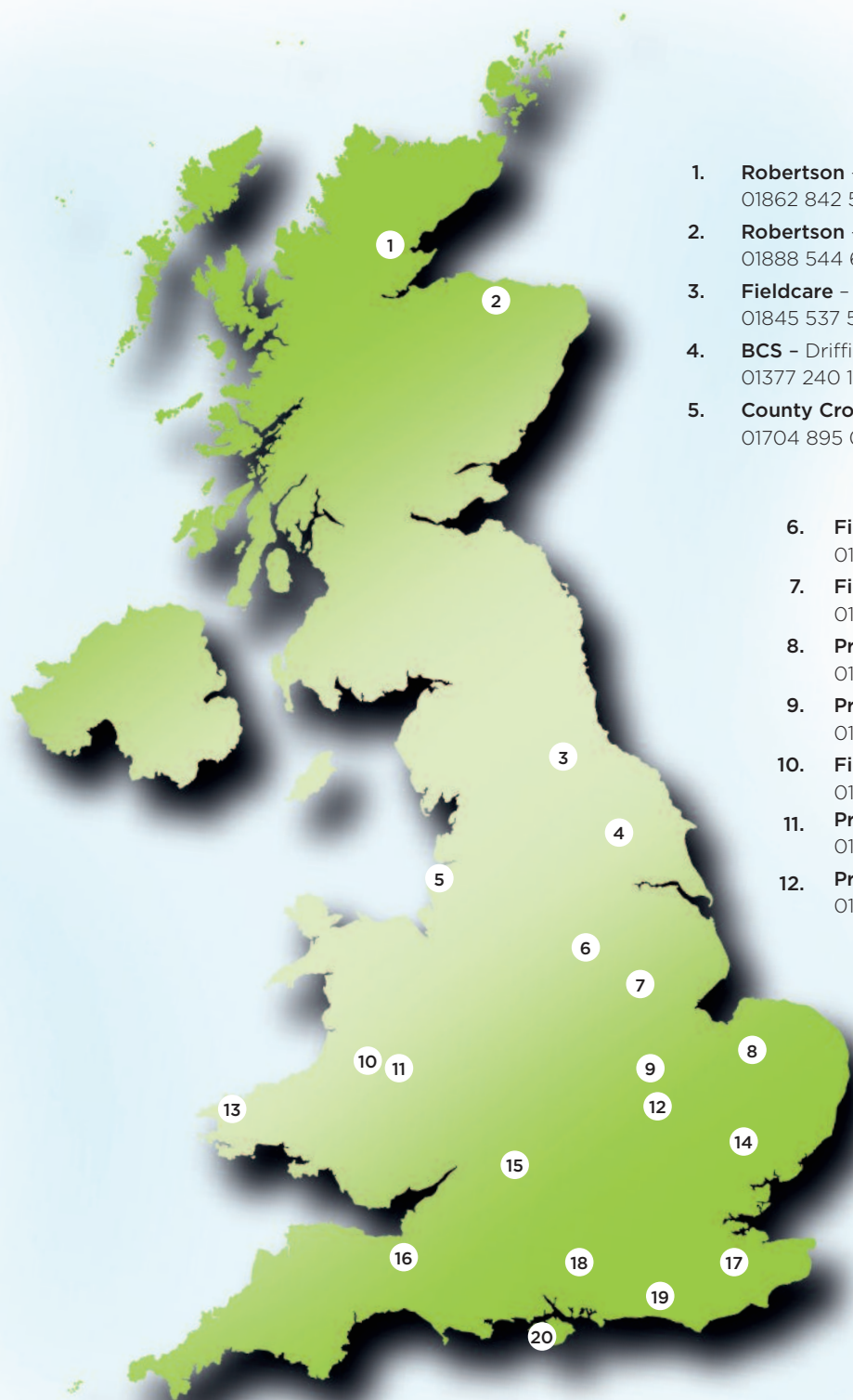


Want more information on how ProCam 4Cast can help your business?

Or want to join the ProCam 4Cast members' group?

Contact your ProCam agronomist or ProCam on 01954 712150 today.

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ProCam UK Limited

2020 Cambourne Business Park, Cambourne, Cambridge, CB23 6DW

Tel: 01954 712150

www.procam.co.uk



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