YIELD SUMMARY 2024

CERES RURAL

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2024 HARVEST RESULTS

Some harsh frosts and the wettest March in over 40 years defined the results of the 2024 harvest.

Tables 1 and 2 below detail the yield data received from farms for the 2024 harvest. Also included is the number of crops to add context.

TABLE 1. 2024 CEREAL HARVEST RESULTS

CROP YEAR	WINTER WHEAT (AV.)	1ST WHEAT	2ND WHEAT	3RD WHEAT	SPRING WHEAT	WINTER BARLEY	SPRING BARLEY	WINTER OATS	SPRING OATS	RYE
2024	7.94	8.14	8.05	7.45	4.71	6.65	5.73	6.25	5.70	6.77
NO. OF CROPS	151	120	45	5	22	57	71	6	47	11
2023	8.53	8.72	8.64	6.76	4.70	8.05	5.93	6.51	4.94	8.10
NO. OF CROPS	144	101	58	10	12	60	57	8	32	6
% CHANGE VS. 2023	-7%	-7%	-7%	10%	0%	-17%	-3%	-4%	15%	-16%
2022	8.70	9.18	8.08	7.55	4.32	7.96	6.07	6.34	4.91	7.7
NO. OF CROPS	127	116	65	10	16	64	63	12	26	10
2021	8.17	8.23	8.20		5.20	7.18	5.78	5.82	4.67	7.51

TABLE 2. 2024 BREAK CROP HARVEST RESULTS

CROP YEAR	WINTER OSR	AHIFLOWER	LINSEED	WINTER BEANS	SPRING BEANS	PEAS
2024	3.08			3.68	4.41	2.59
NO. OF CROPS	63	0	0	33	17	12
2023	2.95	1.12	1.84	2.93	3.09	2.33
NO. OF CROPS	56	1	2	65	23	14
% CHANGE VS. 2023	4%			26%	43%	11%
2022	3.3	1.19	1.73	3.62	3.04	2.90
NO. OF CROPS	62	3	4	41	23	12
2021	2.87	1	1.21	3.12	4.14	3.17

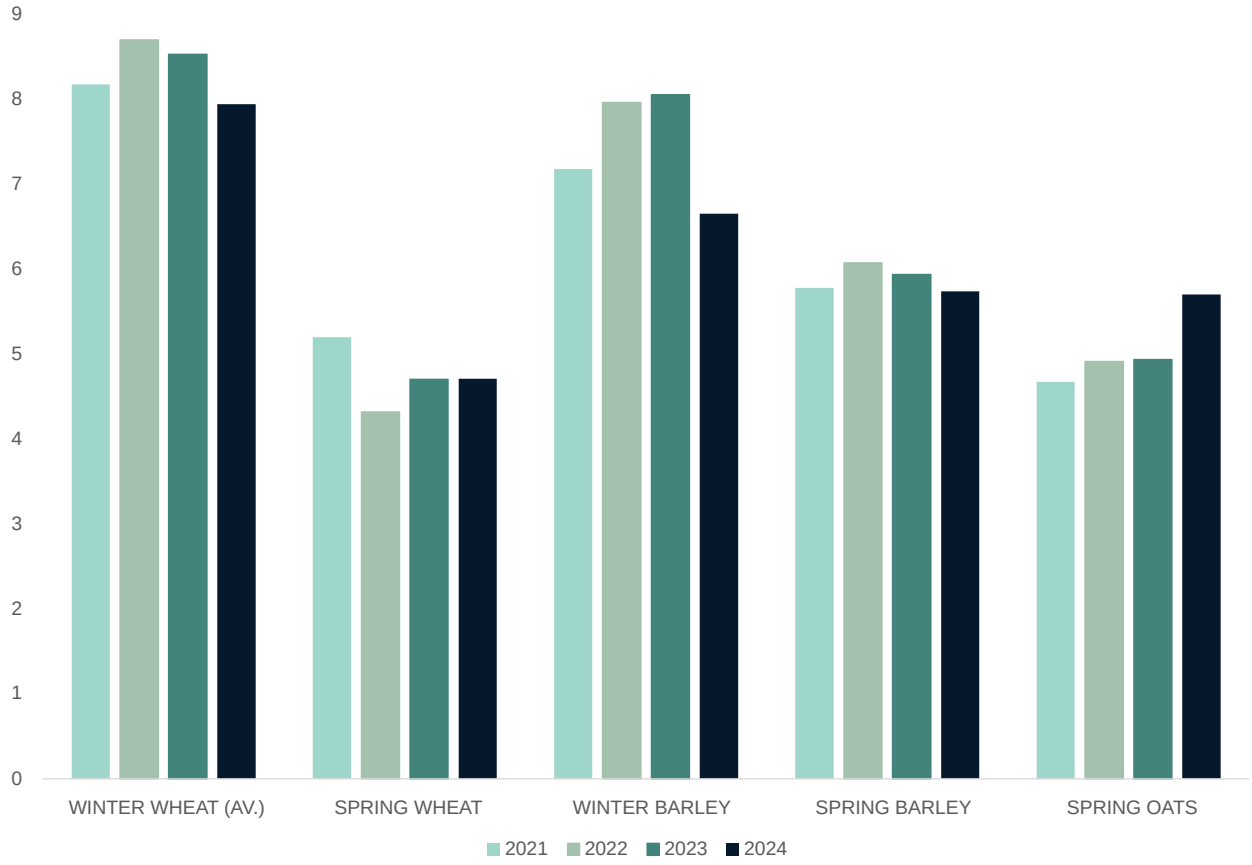


FIGURE 1. CEREALS YIELDS 2021, 2022, 2023 AND 2024 (T/HA)

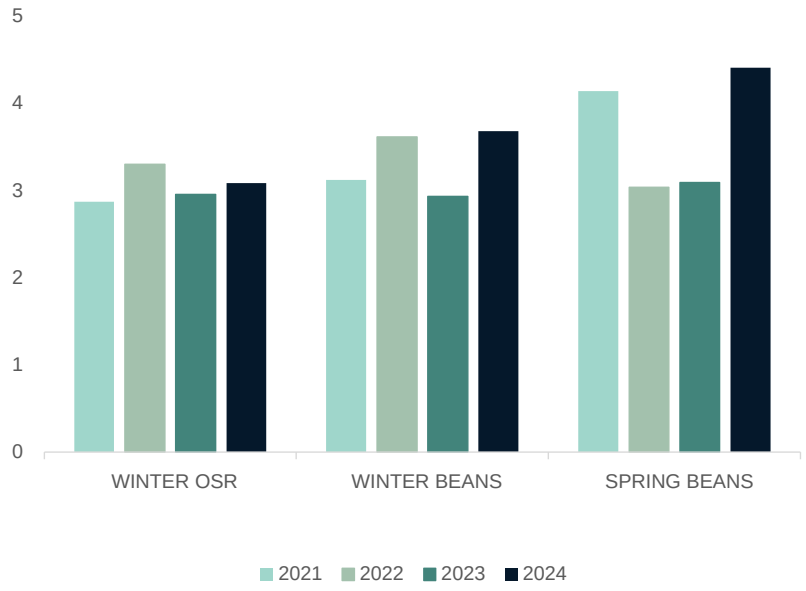


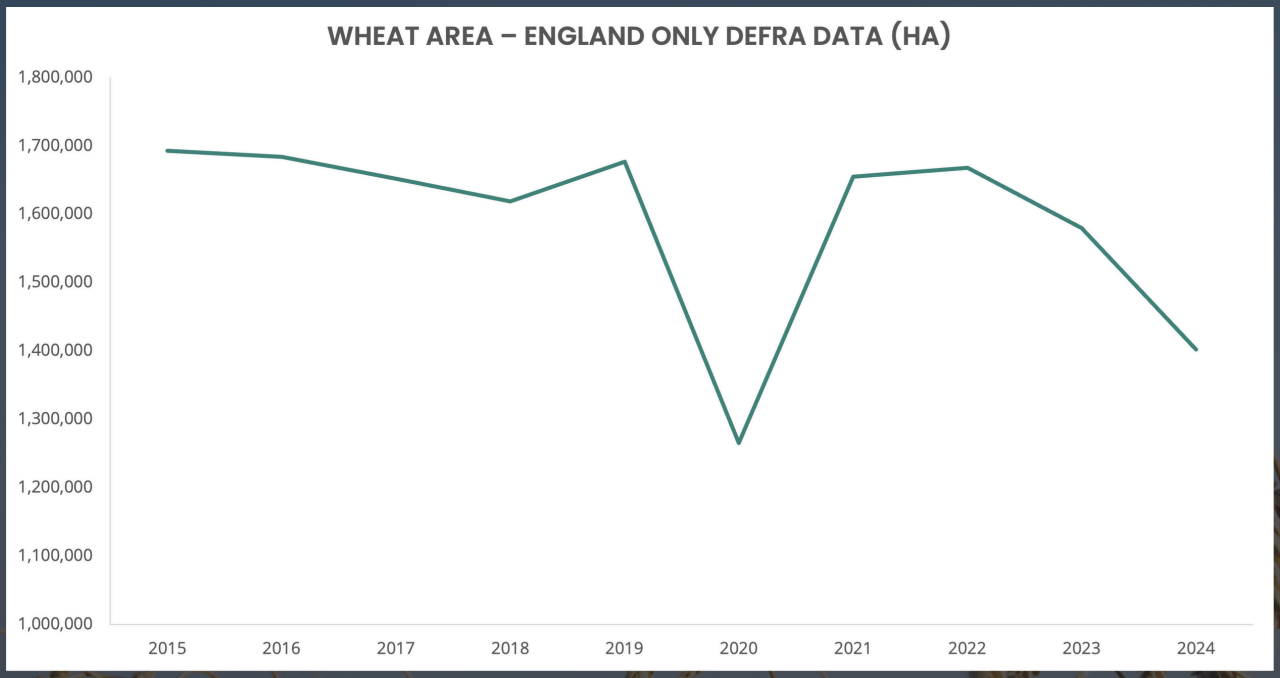
FIGURE 2. BREAK CROPS YIELDS 2021, 2022, 2023 AND 2024 (T/HA)

WINTER WHEAT

The year will be remembered for the autumn of 2023 and relentless rain that stopped drilling for many from the middle of October through to the spring. The 2024 harvest covered the second lowest national planted area in recent memory, beaten by autumn 2019 when the harvested area in 2020 was 1.26 million hectares verses 1.4 million hectares in 2024. The provisional harvest figure for England (no UK data available at the time of writing) is 9.9 million tonnes, down from the 12.7 million tonnes from harvest 2023, and only slightly higher than the 8.6 million tonne harvest of 2020.

The average yield of the 155 wheat crops in this year's Ceres survey is 7.94 t/ha – the lowest since we have been gathering data with little difference between first and second wheat yields.

**Only information for England is available from Defra at the time of publication*



Clearly drilling date and conditions had a significant effect on yield potential, but even September drilled crops fell short of the farm five-year average. Very few fields, let alone blocks, achieved over 10t/ha in this year's survey. There are many reasons why crops did not perform, they are accumulative, and unsurprising given the extremes of conditions.

For the second year running, heavy, "well drained", moisture retentive clay soils underperformed. Although not waterlogged, clearly soils were wet for a prolonged period, affecting root development, slowing spring growth, and potentially limiting effective nitrogen utilisation. Driving biomass with early doses of nitrogen has a

place, but when moisture is ample early in March, more growth clearly drives disease leading to issues later in the season.

Lighter soils, freer draining soils, and chalks, as is the recent trend, seem to fair better. When water availability is no longer a limiting factor, crops on these soils benefit from the freer draining nature and yield surprisingly consistently.

A positive observation is that later planted, December to end of January wheats performed well, appearing to respond to not having wet roots in October/November/December.

WHEAT VARIETIES

Varietal winners this year include Champion, which shrugged off bushel weight concerns to achieve this year's highest treated yield. Other notable Group 4 hard wheats that proved robust in this year's conditions were Sy Insitor and Graham, which generally coped better than KWS Dawsum. Candidate KWS Scope and Hexton are looking promising.

Bamford yielded well in the Group 3 grades, with candidate KWS Solitare and Flute ones to watch for next year.

Palladium edged KWS Extase in the Group 2 milling group, as septoria resistance in Extase understandably starts to creep in with a high-pressure year. KWS Arnie is looking good in its first year of RL trials.

Only one new Group 1 milling wheat, Syngenta's Cheer, gained full milling approval offering improved disease resistance. Skyfall, maligned for yellow rust and not achieving a protein specification, remained robust under the widest of drilling dates and achieved a margin in the least promising of situations. Zyatt performed to type, high yield potential with variable grain protein. Having had several good years and being the stalwart Group 1 variety, Crusoe's vulnerability to brown rust caught up with it, posing huge risks to margin in crops where it took the infection early. Yields of Crusoe in particular this year have been very variable, with uncharacteristically large variations in grain protein, even where yields were low. It's clearly left a bad taste this year, with many cutting the amount of the variety in 2025 plans.

FOLIAR DISEASE

The indications of early brown rust infections was there from February – similar to most years – but the early infection proved stubborn to eradicate and, as mentioned above, had a crippling effect on some Crusoe margins. The 2024 monitoring done by UK Cereal Pathogen Virulence Survey confirmed there has been no change in the

virulence (ability of the pathogen to do harm) of brown rust races found in 2024, so we can only assume at this stage that the severity was due to the warm conditions and a slip in varietal resistance.

GRAIN QUALITY

In the run up to harvest there was much discussion over the lack of June/July sunshine and what affect this may have on crop bushel weight. When combines rolled into winter barely, bushel weight was reassuringly reasonable, and we hoped this would be the same for wheat, which turned out to be the case. There were fewer crops with bushel weights in the eighties this year, most in the mid to late seventies and generally marketable without significant claims.

For the second-year running, grain protein content has been lower than anticipated for the nitrogen rates used. Last year crops yielded slightly better than expected, however this year the availability of nitrogen, and its efficient use, are probably the reason for low protein levels, as opposed to yield-related protein dilution. Even some crops of Crusoe have failed to make 12% protein.

For the second year running, second wheat milling varieties have fallen short on making 12% grain protein, never mind 13%, and despite a general increase in early and late nitrogen rates. The large milling premium was available on new crop wheat prior to the last dose and protein top up being applied to milling wheats. So, unlike last year, many growers added additional late nitrogen where they thought there might be an advantage to do so. Even so, this did not manifest in reliable full specification grain protein, which was disappointing and something to investigate further over the winter.

With a large proportion of the crop drilled late, flowering was always going to be later than normal, together with some below par grass weed control, the result was widespread unacceptable levels of grain and grass ergot in many blocks.

SPRING WHEAT

The number of spring wheat crops in 2024 were almost double 2023, but interestingly the yield is very similar at c.4.7t/ha for both years. Late planted wheat/spring wheat has somewhat been the success story of the year, generally achieving better grass weed control, less disease pressure/expense and generally higher grain specifications, particularly grain protein levels. The only niggle which can vary greatly is the levels of ergot in the sample. With unpredictable autumns, it's likely spring wheat seed will be retained on farm and used as insurance for poor autumn drilling campaigns.

WINTER BARLEY

The number of farms growing winter barley in this year's survey remains relatively consistent at 57 crops as opposed to 60 and 64 in the previous two harvests. This suggests it's not just the opportunity of growing rape that is keeping the crop in the rotation.

The wet winter and particularly the wet new year is always going to have the greatest effect on the crop that needs to get away and grow early in the season. This, with perhaps compromised seedbed conditions and punchy pre-emergence herbicide stacks, ultimately either reduced the number of ears or compromised the numbers of grain set. The net result saw a 17% reduction in grain yield from 2023, with a survey average of 6.65t/ha for 2024. Most disappointing was some of the better-looking heavy land crops which just didn't deliver, while yields on freer draining lighter land held closer to farm average.

Defra reports the average yield for England to be 6.2t/ha – a 12% reduction on 2023, with the West Midlands and North East suffering the most with a 20-26% reduction in yield over 2023.

Feed grain quality has generally been good. Bushel weights held up through the generally dull finishing conditions, with some crops seeing slightly higher screenings than normal. Germination and grain nitrogen levels have generally be quite acceptable for malting, with nitrogen trending in the 1.3-1.6% range.

Wetter spring conditions and stressed crops are likely to lead to more ramularia incidence and it will be interesting to see how the new varieties and treatments cope.

SPRING BARLEY

Defra estimates a 28% increase in the area of spring barley in England, significantly offsetting the reduction in winter barley, as growers compensate for the lack of winter planting opportunities. The North East had 39% more crop in the ground in 2024, with most English regions increasing spring barley areas by c.30%. The Ceres survey suggests only a small reduction of 3% in yield over 2023, with the crop averaging 5.73t/ha from 75 crops recorded. Defra is suggesting a 10% increase in spring barely yields over 2023, with the average crop yield at 5.6t/ha over 5.1t/ha in 2023.

While the average reduction in yield appears small, there will be many experienced growers of the crop who will be disappointed with this year's yields. Growing conditions affected performance, and this is highlighted by the abnormally low grain nitrogen results, suggesting either the crop didn't utilise all the nitrogen that was applied, or growers cut back on nitrogen rates to better achieve nitrogen specification.

Harvest 2024 has generally produced high quality crops of high germination and low grain nitrogen, to the extent of depressing the market for the crop. Typically grain nitrogens are trending low, with many crops in the 1.25-1.6% range, particularly low for heavy land crops. Grain moistures towards the end of harvest increased, initiating some early sales, or some conditioning. Grain ergot for many is a major issue and one that will have to be worked out quickly over the coming months.

OILSEED RAPE

The 2024 survey contained 63 crops – marginally up on the 56 crops from last year, with most who grew in 2023 growing again in 2024. The increase in harvested crops is likely a reflection of more crops surviving though to March/April than an increase in the number of growers per se.

There was no advancement in yield over 2023, with the 2024 yield result coming in at 3.08t/ha compared to 2.93t/ha last year – an imperceivable 4% increase in yield. Defra reports a very similar yield for English crops in 2024 at 2.8t/ha, an estimated c.8% reduction from 2023 harvest with yields in the North West and Merseyside being affected most by conditions. The national crop is estimated to 687,000 tonnes – a 33% reduction in tonnage from the 2023 harvest.

It feels there is nothing significant to report on rape – perceived price at harvest is the biggest factor driving planting decisions. There is nothing about the growing of the crop that has got any more reliable, other than good soil fertility and conducive soil type.

It will be interesting to see how the reducing winter barley area this autumn will affect the rape area for 2026 harvest.

WINTER OATS

Another consistent year which feels a good result given some of the autumn conditions the crop was established into. Yields on farm felt higher with some soil types and locations really benefitting from the wetter conditions. There were only six crops in this year's survey, averaging 6.25t/ha – only 4% down on 2023, and within 0.5t/ha of this year's winter barley average. For the majority, achieving milling specification/bushel weight has not been a concern in harvest 2024, just the price in an oversupplied market.

Defra's 2024 harvest report doesn't differentiate between the yield of winter and spring oats, it just reports that oat production increased by 20% to 773,000 tonnes in 2024, due to an 11% increase in area and an 8.5% increase in yield.

SPRING OATS

Unsurprisingly the number of crops in this year's survey increased to 47, a 45% increase over 2023 partly as a result of conditions but also some crops replacing failed rape. Conditions clearly favoured spring oats with our survey indicating a 15% increase in yield over 2023 with an average of 5.7t/ha. Like winter oats, bushel weights have generally been good to higher than average. It's interesting to speculate why this might be, later planting, less nitrogen, more moisture – clearly a combination of factors have worked.

WINTER BEANS

There were less than half the number of winter bean crops in this year's survey – 33 (2024) v 65 (2023) – no doubt largely stemming from last year's poor performance. A kinder autumn in 2023 and a generally milder winter with limited frosts created far less stem damage and got the crop off to a better start. Crop growth early spring was productive, while flowering and pod set was more in line with expectation. The 2024 crop averaged 3.68t/ha, 26% higher than 2023 and slightly higher than 2022 and 2021.

Chocolate spot remained a concern where fungicide treatments were inappropriate, or where sprays could not be applied in time due to conditions. Heavy land and the most moisture retentive soils which were home to crops that looked full of potential, were not as good as some lesser looking crops on freer draining land.

SPRING BEANS

The number of crops grown in 2024 is only slightly down on 2023, which is interesting given the crop's poor performance last year. Thankfully, the crop performed in 2024, with yields averaging 4.41t/ha – a c.40% increase over 2023.

Flowering appeared to be of "normal" duration and didn't seem cut short by high temperatures. Pod set (and beans per pod) looked good, despite what felt like a lack of pollinators in many fields.

In three of the last four years, spring beans have out-yielded winter beans, which is surprising given the unpredictability of spring weather.

SPRING PEAS

The Ceres survey does not differentiate between the type of pea grown, be it a marrowfat, blue or other market. Given the potentially greater opportunity for more peas in 2024, the number of growers in the survey remains relatively static at 12 crops. This suggests the crop has a limited yet loyal following – possibly the price of sugar beet in 2024 reduced some opportunities for peas.

The good news is that despite the risk of compromised seedbeds, the crop averaged 2.59t/ha – 11% higher than 2023, however at this yield level they are not an exciting crop to grow.

CONCLUSION

Harvest 2024 has been difficult, but the learnings on drainage and soil management must be retained, as unsettled weather patterns feel like they are here to stay. Our challenge is to be better prepared for these scenarios, to piece together the data that makes us act proactively with greater confidence. It is for this reason that we recently launched Ceres Research – to help our industry face these challenges and provide solutions in the seasons to come.

Find out more about Ceres Research by visiting their website: ceresresearch.com.

CERES RURAL

CONTACT US

HEAD OFFICE
Ceres Rural
Council Offices
Saffron Walden
CB11 4ER

contact@ceresrural.co.uk
01223 679 679

VISIT US

ceresrural.co.uk

FOLLOW US

PARTNERED WITH

CERES RESEARCH

CERES PROPERTY

SMART BUSINESS SOLUTIONS

CONTACT US TO SEE HOW YOUR HARVEST COMPARES

JOCK WILLMOTT

M: 07592 041 671

E: jock.willmott@ceresrural.co.uk