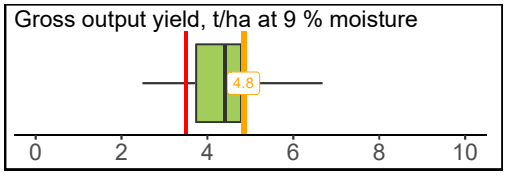
Entrant's Report

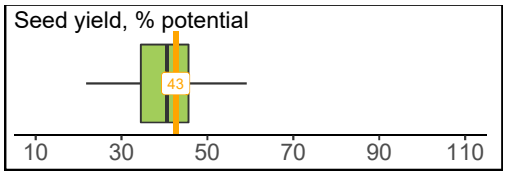
Harvest 2021

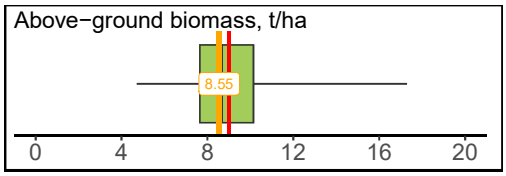
YEN User ID: [redacted]
Entrant name: [redacted]
Main contact email: [redacted]
Sponsor/supporter: [redacted]
Sponsor/Supporter email:

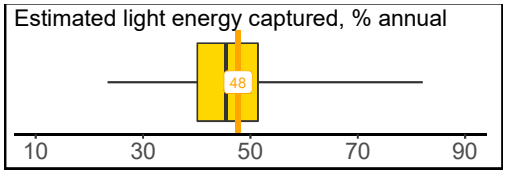
Field/Site name: [redacted]
Location: [redacted]
Incident energy 2020-21: 31 TJ/ha
Available water: 501 mm
Crop: Oilseed Rape
Variety: Blackmillion

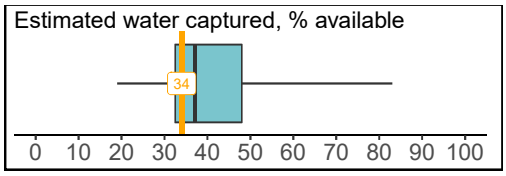
SUMMARY: YEN entries were completed from 43 fields in 2021. Headline results for your entry are shown in benchmark diagrams below. Your yield of 4.7 t/ha ranked 9th within all YEN entries. This represents 43% of its estimated yield potential of 11.4 t/ha, which ranked 17th within all YEN entries in 2021.

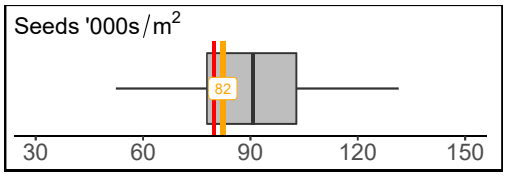






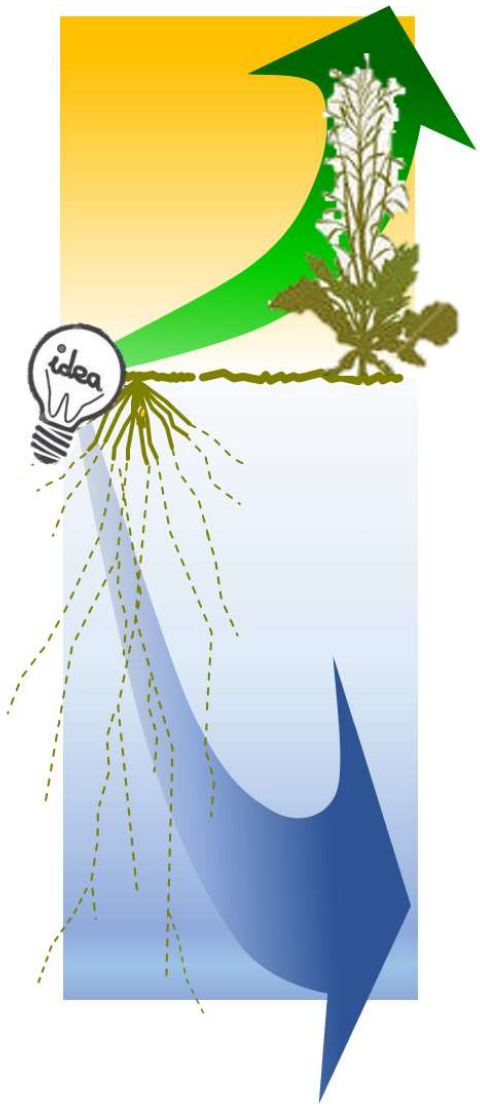






Overall yield rank: **9th**

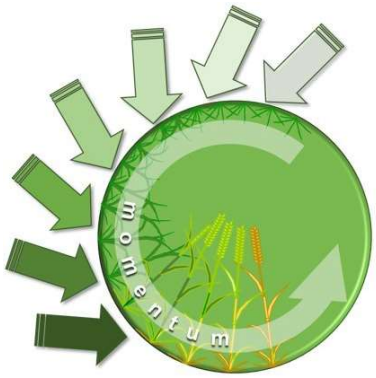
Overall potential yield rank: **17th**



CONTENTS

Our detailed analysis of your yield result is provided in the following pages, including comparisons with other YEN entries and with benchmarks taken from the AHDB Oilseed rape Guide and the AHDB Nutrient Management Guide (RB209). We hope that this helps you to identify aspects of your husbandry and growing conditions that offer possible routes to further yield enhancement on your land.

Our approach in this report is to consider yield potentials and growing conditions for crops in the 2020-21 season, then the conditions of your crop, its development, its basic resources (light energy, water and nutrients), its success in capturing these and in converting them to seed. Lastly, we use seed analysis to provide a post-mortem on your crop's limiting components and nutrition.



"The YEN exists to help you to enhance your yields."

The key to high yields in YEN has been good crop growth. So the key to enhancing yields is to know what is limiting growth – solar radiation or water – and then to target improved green canopies or improved rooting accordingly.

To set potential yields we assume a theoretically 'perfect' oilseed rape crop grown with 'inspired' husbandry, such that it can achieve both:

(i) **80% capture of light energy** through the season, and can convert this to plant biomass at 1.4 tonnes / terajoule of solar radiation – or seed biomass at 0.7 tonnes / terajoule of solar radiation.

and

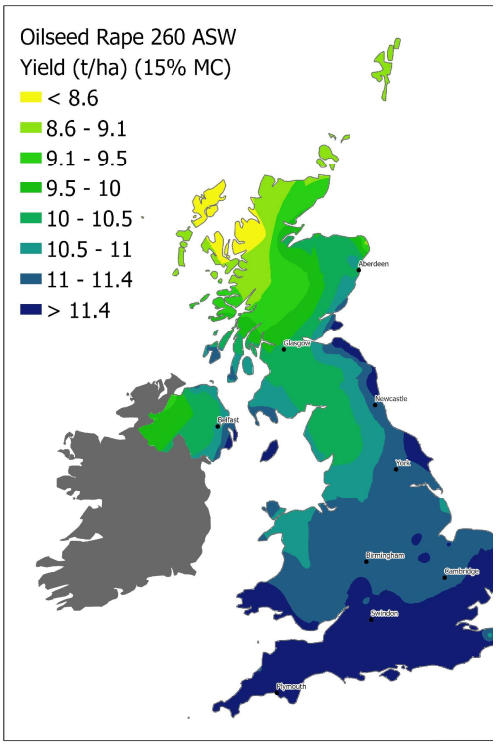
(ii) **Capture 75% of the available water** held in the soil to 2.0 m depth (or less if to rock) plus all rainfall from March to July, and can convert each 18 mm into a tonne of plant biomass per hectare, or 26 mm into a tonne of seed biomass per hectare.

Taking the lesser of these two biomass amounts we assume that a maximum of 45% of the total biomass can be used to form seed (this is the 'harvest index').

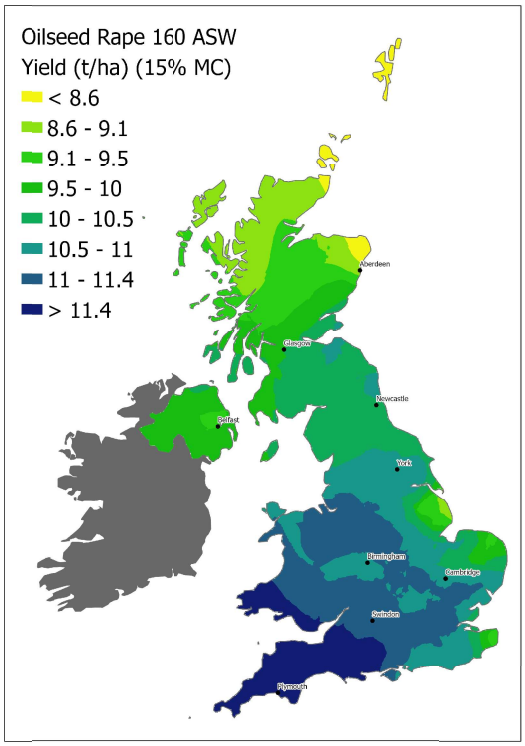
The maps below show potential yields for soils with high and low available water-holding capacity (AWC) for 2021. Yield potentials are often better in the west than in the east, which is primarily due to greater rainfall levels. Yield potentials range from 7 to 8 t/ha in the majority of arable regions on low AWC soils. Whereas the majority of arable areas have a yield potential of 10 to 11 t/ha on high AWC soils, due to these sites being more light limited.

2021 Potential yields

2021 Autumn sown on retentive soil (260 mm AWC)



2021 Autumn sown on light soil (160 mm AWC)



We are using weather data from DTN™ in 2021. Note we do not have long term met data from DTN so cannot show a map of long-term average yield potentials.

The season's weather

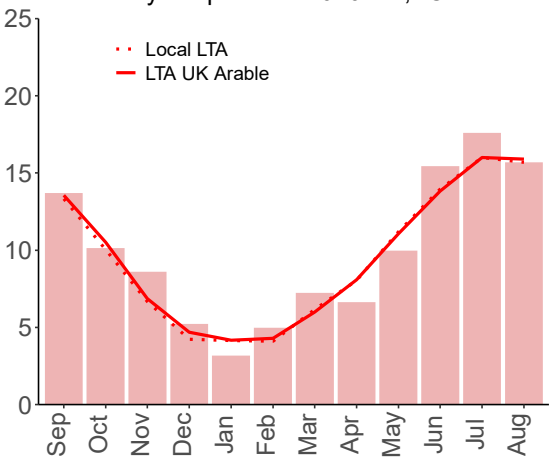
Oilseed Rape establishment in 2020 was generally much more successful than in 2018 or 2019. Adult Cabbage stem flea beetle (CSFB) damage was reduced on the whole, probably due to adequate soil moisture which allowed establishing crops to grow away from damage. Early drilled crops developed very forward canopies with some enormous crops entering winter. It is likely that the wet winter caused periods of water-logging in some crops which will have inhibited root growth and function. This will have had more serious effects on heavy poorly drained soils and for late drilled, backward crops which had produced a shallower root system by winter.

The warm March weather encouraged early stem extension and flowering, but the severe April frosts then caused plant damage in quite a few fields. The severity of the frost damage was often dependent on variety. If plants survived then most crops produced additional branching to compensate for damage to the terminal raceme. The sunny conditions in April will however have helped the crops set many pods. The dry early spring also helped to manage down the large canopies of some early drilled crops. Adult and larval CSFB damage was variable across the country but was generally less severe than in 2019/20. Pollen beetle damage was limited by the cool weather in April.

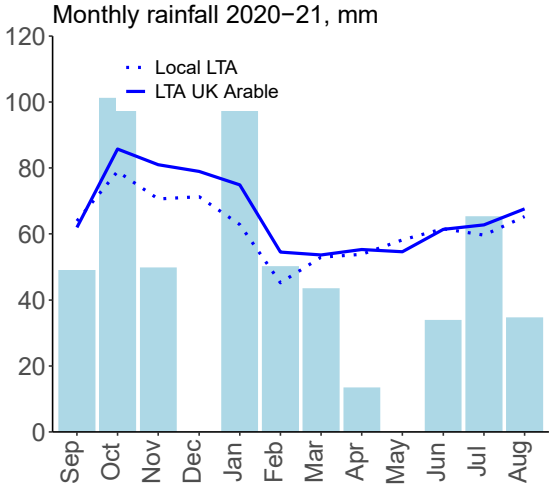
The rainfall in May came early enough for the majority of crops to prevent any negative effects from the dry March and April conditions and will have provided enough moisture to see most crops through to harvest. The dull conditions in May might have restricted the number of seeds set per pod. The warm June/July may have limited seed filling by shortening the seed growth phase. August was quite a dry month, but dull/cool conditions prevented moistures falling leading to a drawn-out harvest for some. There were instances of severe hail destroying some crops in the east. In general, lodging levels were low to moderate. Disease levels were also generally low to moderate, although there were some high light leaf spot incidences on susceptible varieties in Scotland, and there were no unusual weed issues.

Overall, the 2021 weather conditions supported reasonable yield potential with generally good plant establishment and no severely adverse weather, pest or disease conditions. However, it is difficult to judge the impact of any water-logging arising from the wet winter.

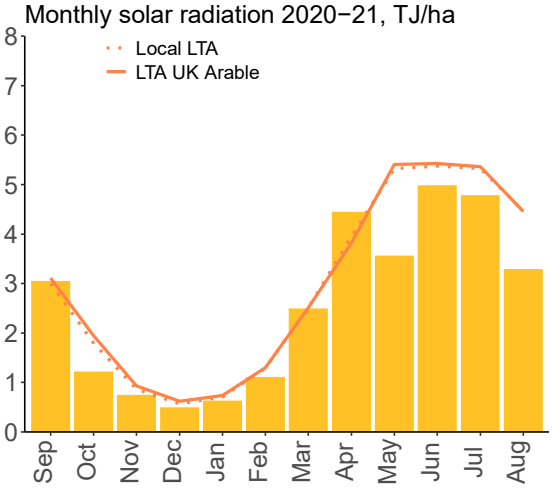
Mean daily temperature 2020−21,° C



Monthly rainfall 2020−21, mm

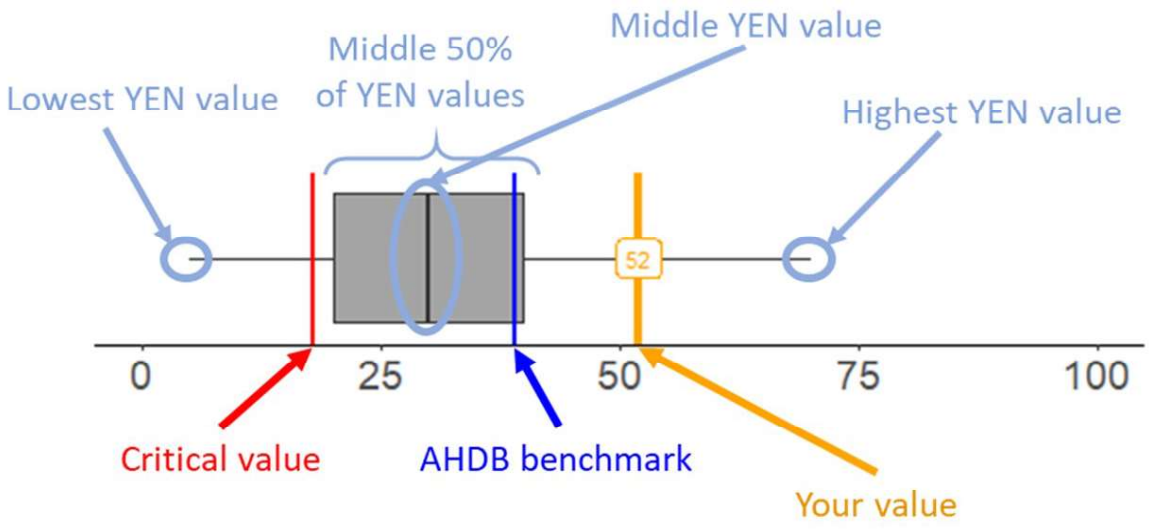


Monthly solar radiation 2020−21, TJ/ha



YEN Benchmarking charts – What do they mean?

YEN is much more than a competition – it provides a full set of metrics whereby you can gauge the performance of your crop against all other YEN crops. This has proved to provide the prime value of the YEN to its participants. We do this with bar-charts. This year we have included bar-charts for agronomy as well as for crop traits. Bar-charts compare your value with everyone else's in 2021 and with benchmark and critical values, if available and appropriate. The key to these charts is as follows:



The 'whiskers' show the range of YEN values in 2021 and the box shows the middle half of YEN 2021 values, with a line for the mid-value. The orange line shows the value for this entry, and the red line is a limit beyond which yield may be adversely affected; crops with values beyond these merit further investigation. Blue dashed lines indicate benchmark values for a typical crop.

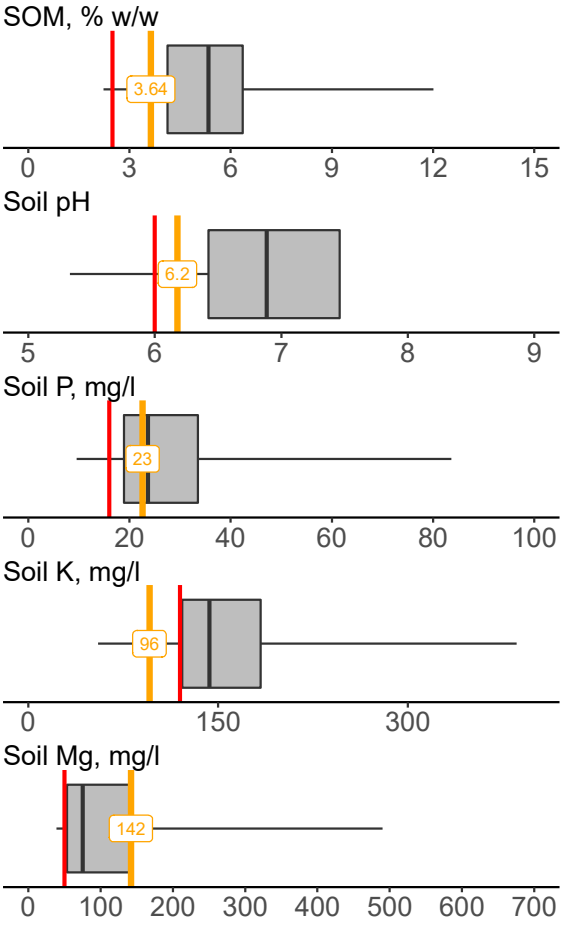
Soil description and nutrition analysis

Your soil's capacity to hold available water is critical in determining your potential yields. We rely on entrants describing the soil where their YEN entry grew, we can use the UK Soil Observatory map viewer to check whether this complies with the surrounding land.

Good soil descriptions are vital in allowing us to estimate soil water holding capacity and, along with summer rainfall, the water available to your crop (see Benchmark charts in the section on 'Resources and their Capture').

Topsoil analyses provided by NRM also tell us about soil status for pH, P, K and Mg, as reported on the next page. A few sites show low values for soil pH, P, K or Mg. If these are unexpected, they may need further checks, either by repeating soil analysis and by checking both leaf and grain analyses later in this report. Previous YEN leaf and grain nutrient data have indicated that UK cereal crops often experience deficiencies in one or more nutrients, and sometimes this is despite soil levels being satisfactory. So, by combined use of soil, leaf and grain analysis, the YENs now help to diagnose whether nutrient shortfalls are arising from poor supply, or poor capture by the root system.

Soil analysis



NRM determines soil organic matter by 'loss on ignition'. Beware that SOM by other methods can give somewhat lower values.

Soils with very low or high pH may need special attention to increase nutrient availability.

Only a small difference separates P Index 0 (<=9) and 2 (>=16), so grain P is useful to check whether crops had sufficient P. It is possible to grow high yields at P index 1, but fresh P is also usually required.

Soil K concentraion less than 60 mg/l indicates a K index of 0.

Magnesiumis a key component of chlorophyll so deficient plants show inter-veinal yellowing. Temporary deficiencies often occur in dry conditions. Levels between 0-25 mg/l indicate a soil index of 0.

Analysis of Oilseed YEN data accumulated from 2017-2020 has shown that, although season has the largest effect on yields, the YEN is beginning to indicate husbandry practices that are associated with high yields.

In summary, we are concluding that: i) Attention to detail is important:

- seed rate is negatively associated with yield
- no. of PGR and fungicide applications are positively associated with yield

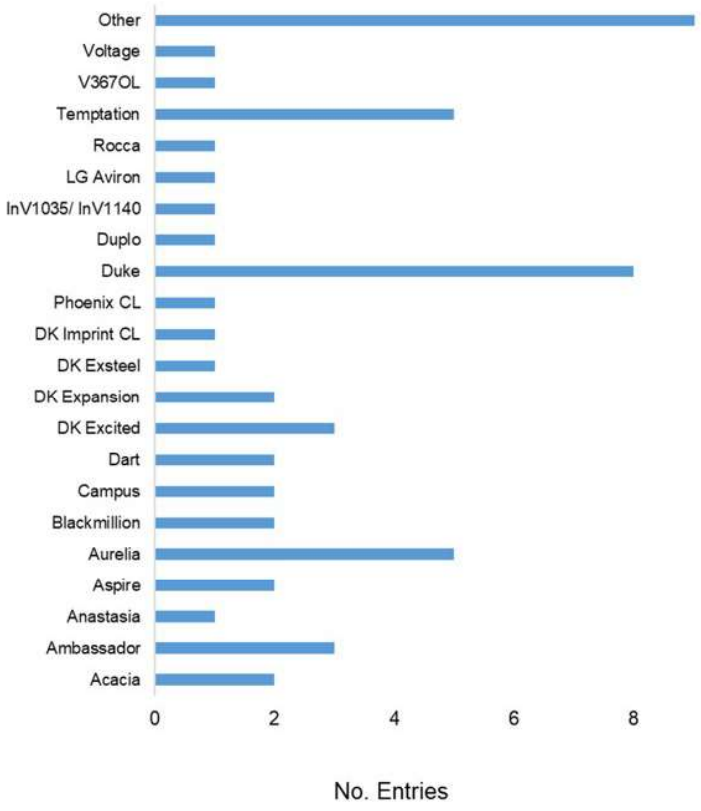
ii) Other high yield associations include:

- Weather: dry, dull autumns and winters, bright springs and cool summers
- High individual plant biomass with many seeds
- Longer duration between the start of flowering and desiccation
- Minimising nutrient deficiencies, with particular focus on P and Mg

The following charts show how the husbandry of your entry related to all other YEN entries in 2020-21.

Variety

The chart below shows the variety choice amongst YEN entrants in 2021. There were at least 22 different varieties entered.

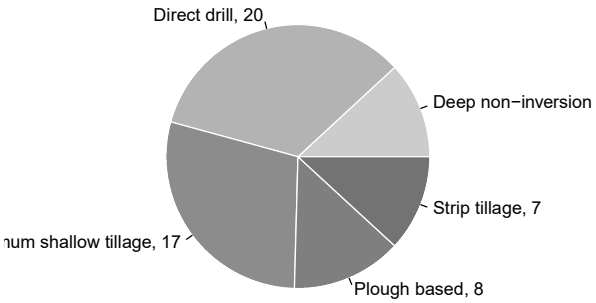


- Your variety was Blackmillion, a Hybrid variety with a medium flowering and medium maturity date

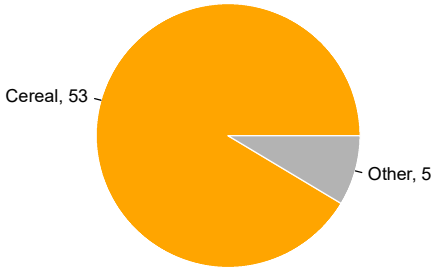
Husbandry

Orange segments or bars in the following diagrams indicate the agronomy of your crop, if known, and shows how common this practice was amongst all YEN entries.

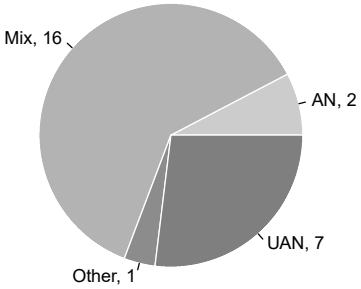
Main cultivation strategy



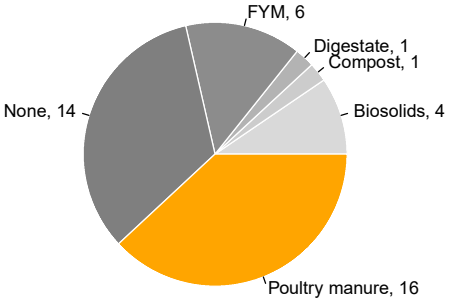
Previous Crop Type

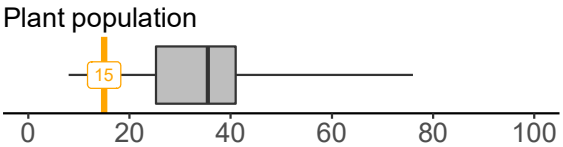


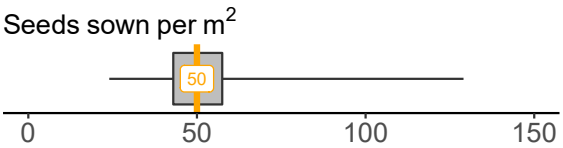
Main form of N applied

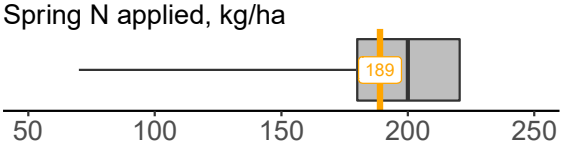


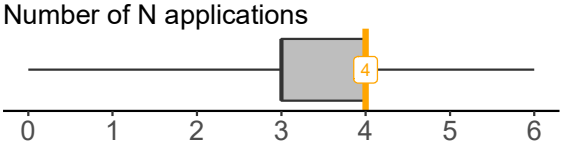
Predominant organic materials applied

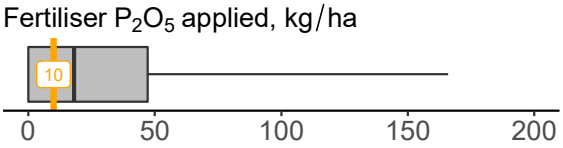


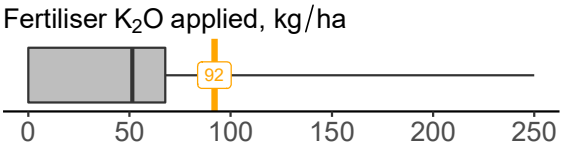


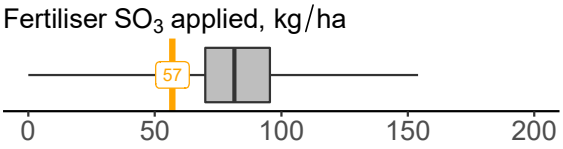


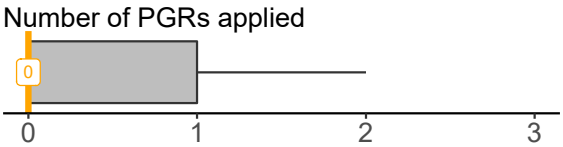


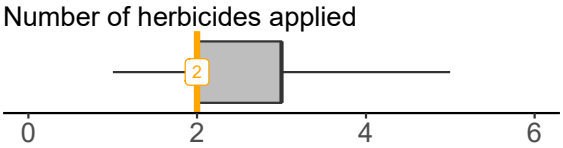


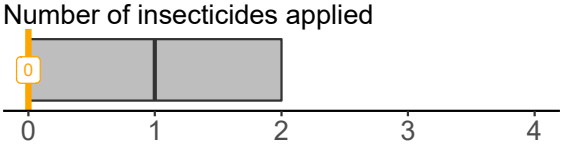


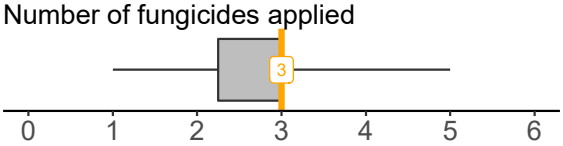


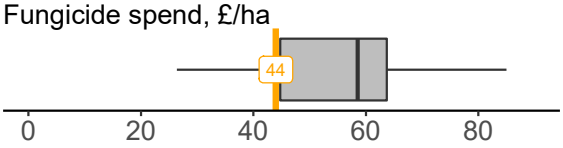


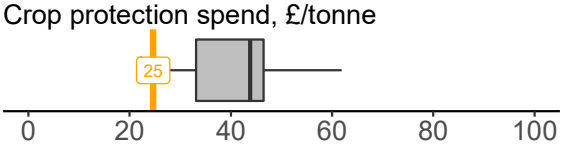










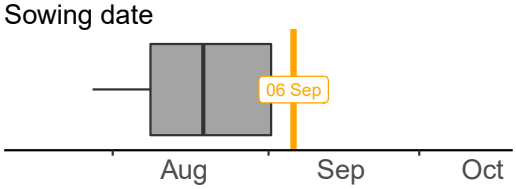


CROP DEVELOPMENT

The following charts show how your entry developed through the 2020-21 season, compared to all other YEN entries and Benchmarks. The cardinal stages of emergence (GS10), start of stem extension (GS31), end of pod formation (GS79) and end of seed ripening (GS89) determine the length of each phase for growth:

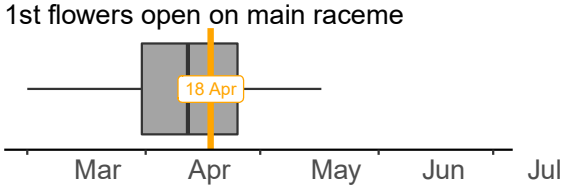
- Foundation, GS10-GS31 – leaf production and formation of main root axes
- Construction, GS31-GS79 – stem extension, branching and pod formation
- Production, GS80-GS89 – when seeds are filled with new assimilates

Sowing date



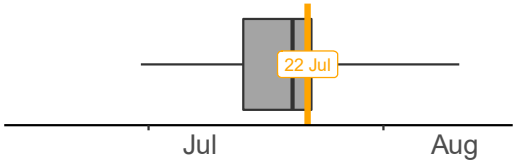
The blue line indicates the UK benchmark for sowing, 25th August

1st flowers open on main raceme



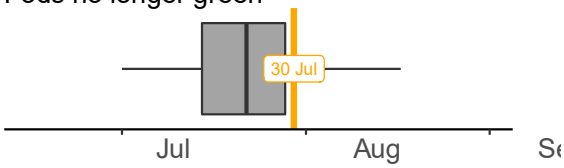
The blue line idicates the UK benchmark for the onset of flowering, 15th April

Dessication



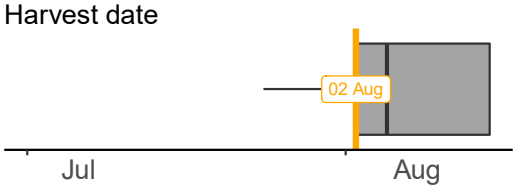
The blue line idicates the UK benchmark for dessication, 12th July

Pods no longer green

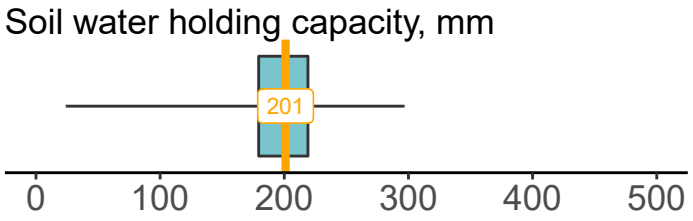


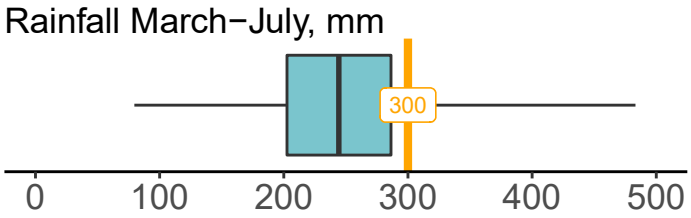
The blue line idicates the UK benchmark for pods no longer green, 20th July

Harvest date



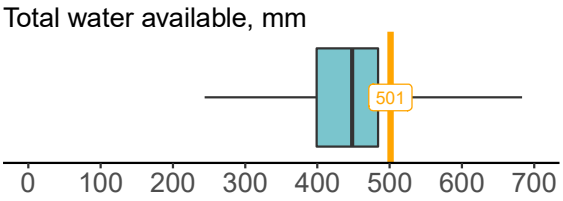
Water capture



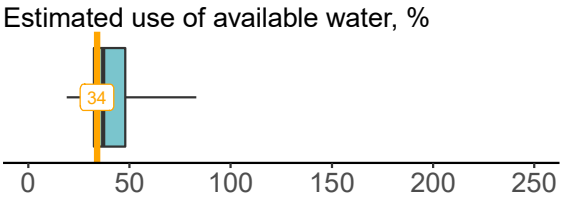


The soil water holding capacity described above assumes that crops could extract 75% of available water to a soil depth of 2 m (or to rock, if shallower). If sufficient roots didn't reach this depth, soil-available water would be accordingly less.

A high yielding crop, growing say 15 t/ha of biomass (so yielding 6 t/ha dry seed at 40% harvest index), would need to capture just over 300 mm water from soil plus rain in March - July. In 2021, whilst April was generally very dry, significant rainfall in May would have minimised water shortages. We estimate below whether water capture limited your crop in 2021.



The water available to your crop was 501 mm.



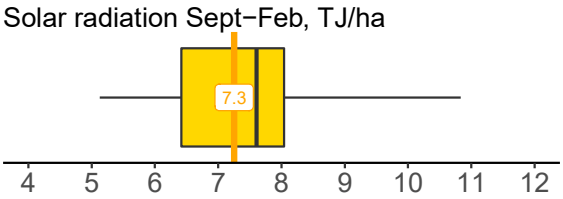
Estimated capture of available water exceeding 100% indicates deeper rooting than our estimated maximum depth (of 2m, or to rock).

If your estimated use of available water exceeds the total water available, this may be good news! It either suggests that your crop's roots were more efficient than normal, or that your soil description was overly pessimistic: i.e. your soil apparently managed to provide more water than we estimated was possible from your soil's texture, stone content and depth.

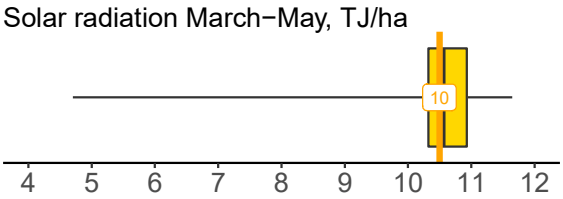
Energy capture

The benchmarking charts below show how 2021 weather affected light energy available for this entry and other YEN crops. Solar radiation has been divided into periods that roughly equate to the three key phases of crop development reported above:

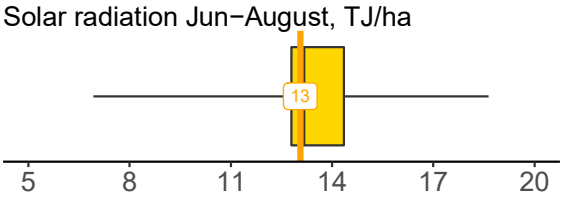
- Foundation – leaf production and formation of main root axes,



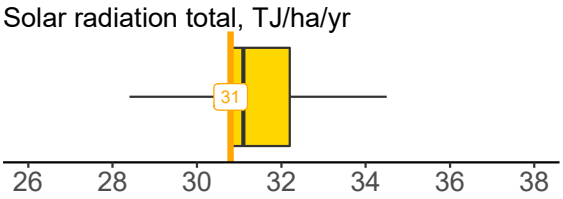
- Construction – stem extension, branching and pod formation,



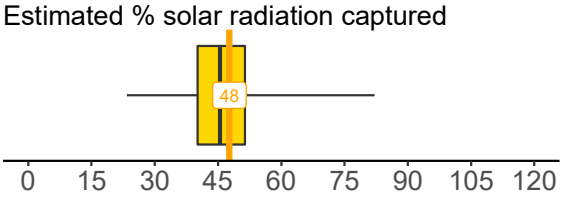
- Production – when seeds are filled with new assimilates.



Whilst we cannot yet measure light capture by YEN crops individually, by assuming your crop's conversion of light energy was 'normal' (0.4 t/TJ up to the start of stem extension, 1.1 t/TJ between the start of stem extension and seed filling and 0.4 t/TJ during seed filling), we have made crude estimates below of the likely success of your crop's canopy in capturing light.



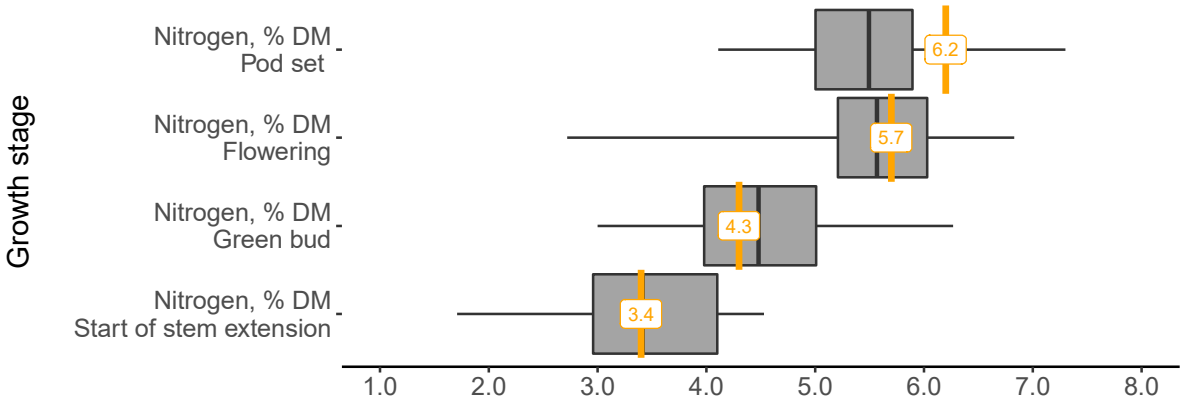
The total solar radiation this site received was 30.8 TJ/ha, compared to 32.6 TJ/ha UK average.

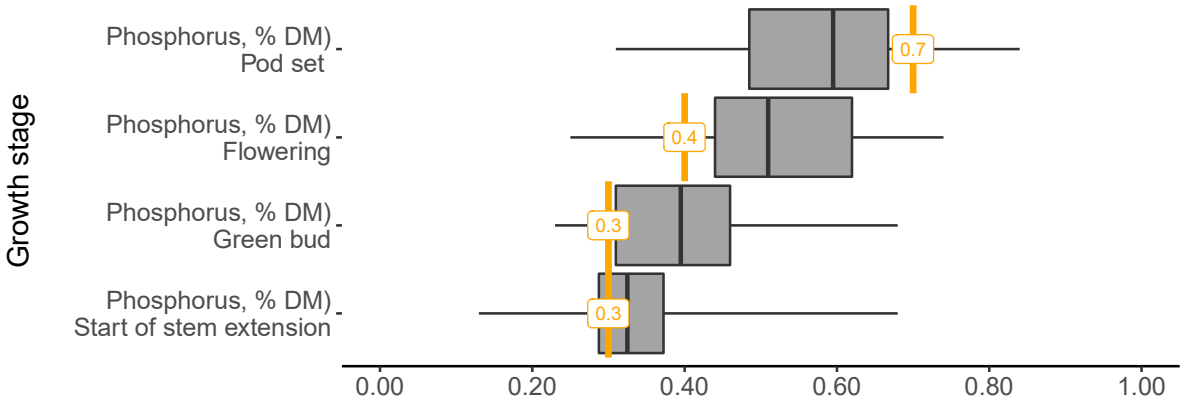


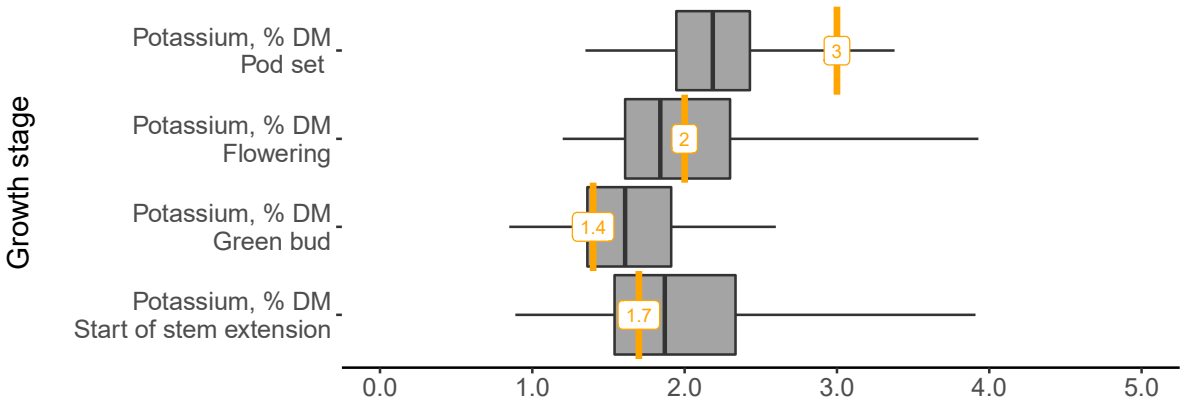
We estimate that the biophysical annual light interception is 80%.

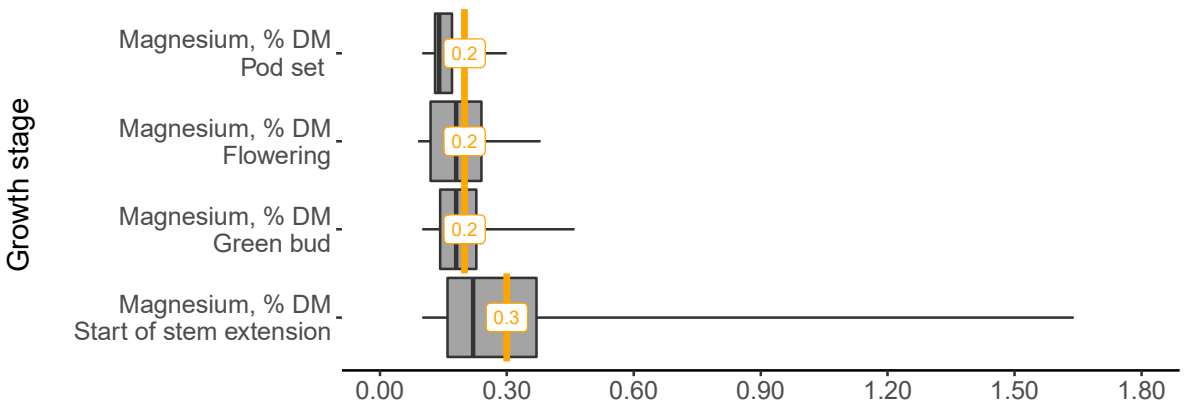
Nutrient capture

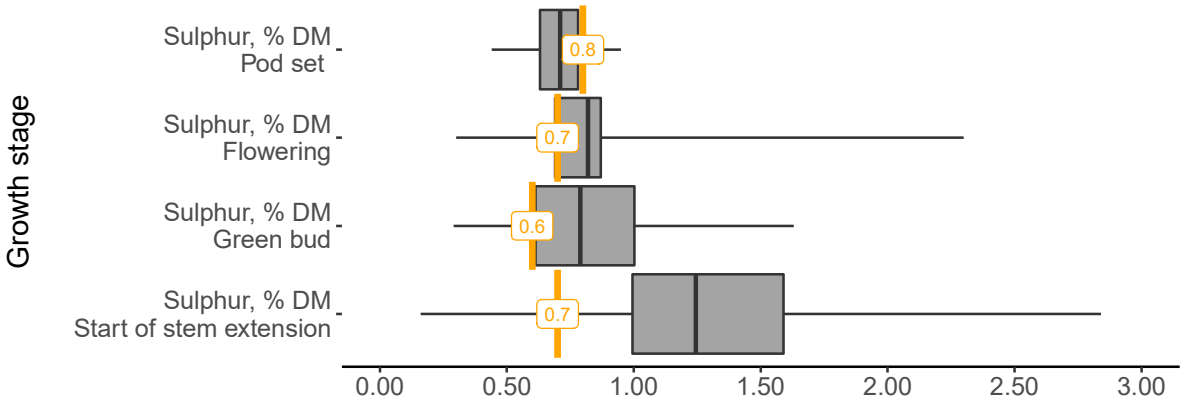
Whether nutrient capture was sufficient to support full conversion of light and water is best deduced from nutrient concentrations in crop tissues – both leaves (next three pages) and seeds (later section). No critical thresholds or benchmarks are shown for leaf analyses because these change through a crop's life and are still uncertain. However, the benchmarking diagrams should enable you to compare your crop's levels with all other YEN entries in 2021, analysed at the same time. Lancrop Laboratories provide leaf analyses for YEN. Samples are of the newest fully expanded leaf.

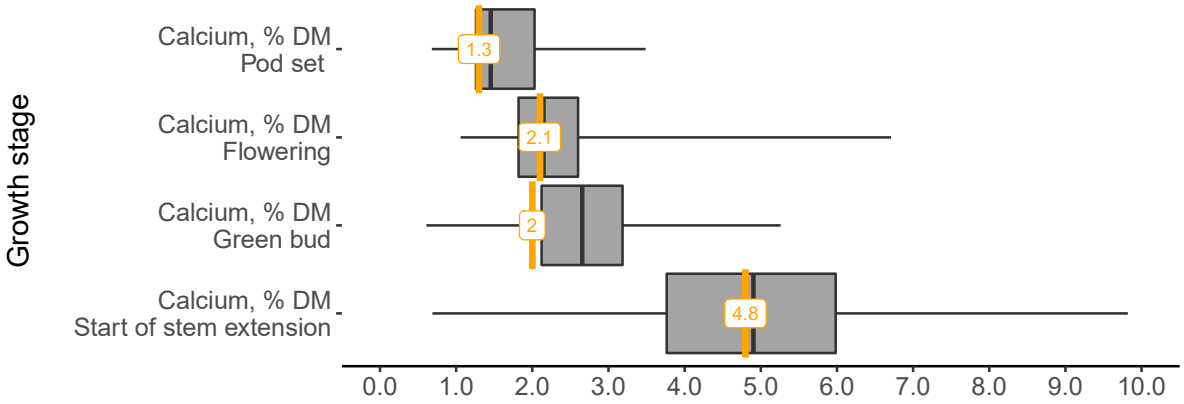

Growth stage
Nitrogen, % DM
Pod set
Nitrogen, % DM
Flowering
Nitrogen, % DM
Green bud
Nitrogen, % DM
Start of stem extension
6.2
5.7
4.3
3.4
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0

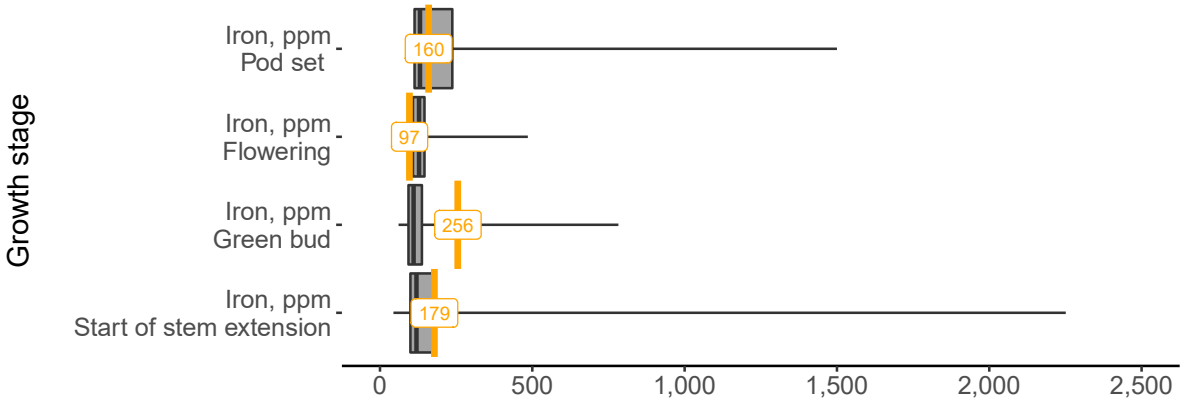

Growth stage
Phosphorus, % DM)
Pod set
Phosphorus, % DM)
Flowering
Phosphorus, % DM)
Green bud
Phosphorus, % DM)
Start of stem extension
0.7
0.4
0.3
0.3
0.00
0.20
0.40
0.60
0.80
1.00

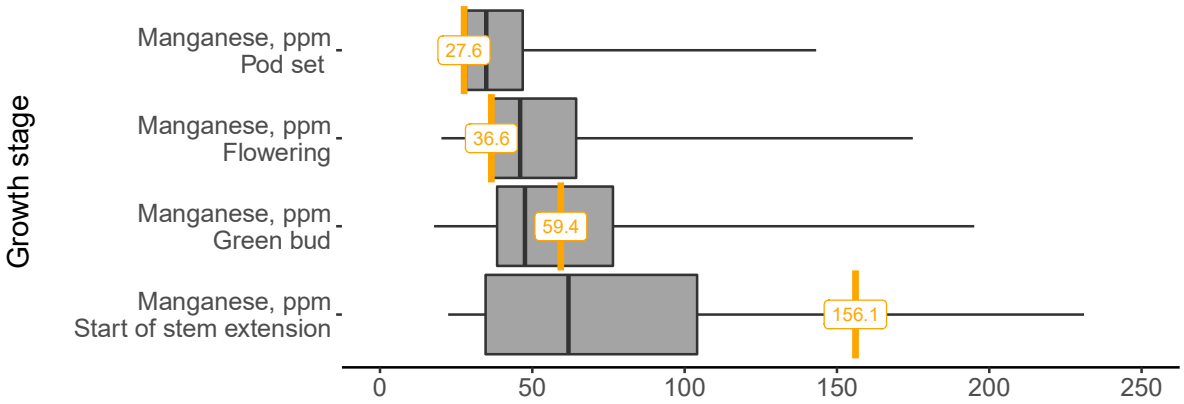

Growth stage
Potassium, % DM
Pod set
Potassium, % DM
Flowering
Potassium, % DM
Green bud
Potassium, % DM
Start of stem extension
3
2
1.4
1.7
0.0
1.0
2.0
3.0
4.0
5.0

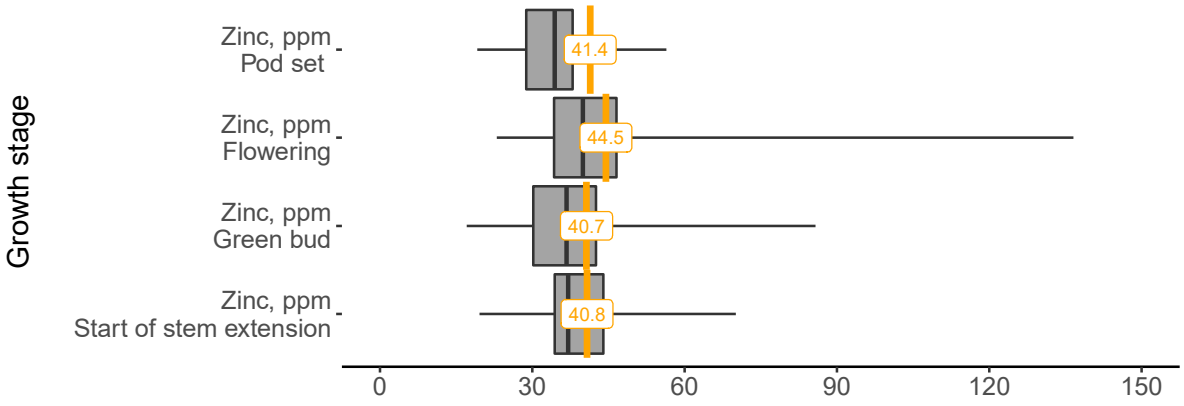

Growth stage
Magnesium, % DM
Pod set
Magnesium, % DM
Flowering
Magnesium, % DM
Green bud
Magnesium, % DM
Start of stem extension
0.2
0.2
0.2
0.3
0.00
0.30
0.60
0.90
1.20
1.50
1.80

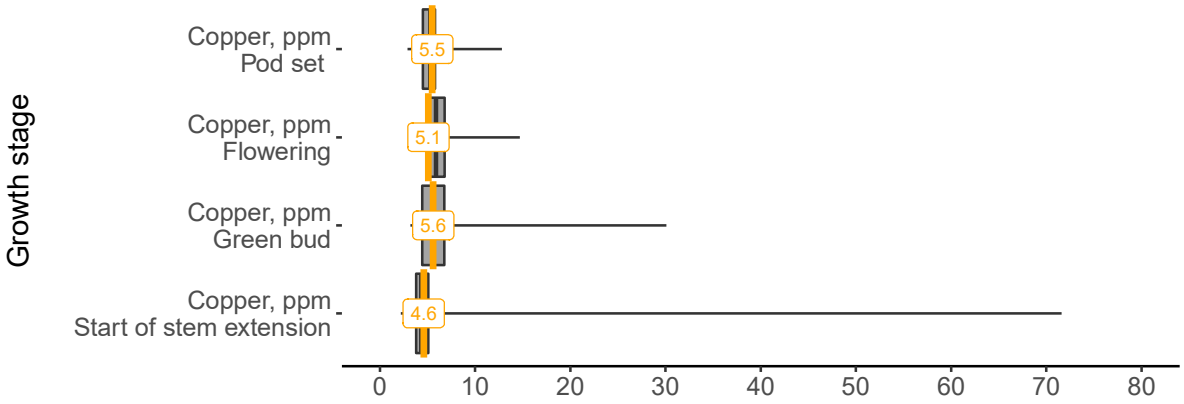

Growth stage
Sulphur, % DM
Pod set
Sulphur, % DM
Flowering
Sulphur, % DM
Green bud
Sulphur, % DM
Start of stem extension
0.8
0.7
0.6
0.7
0.00
0.50
1.00
1.50
2.00
2.50
3.00

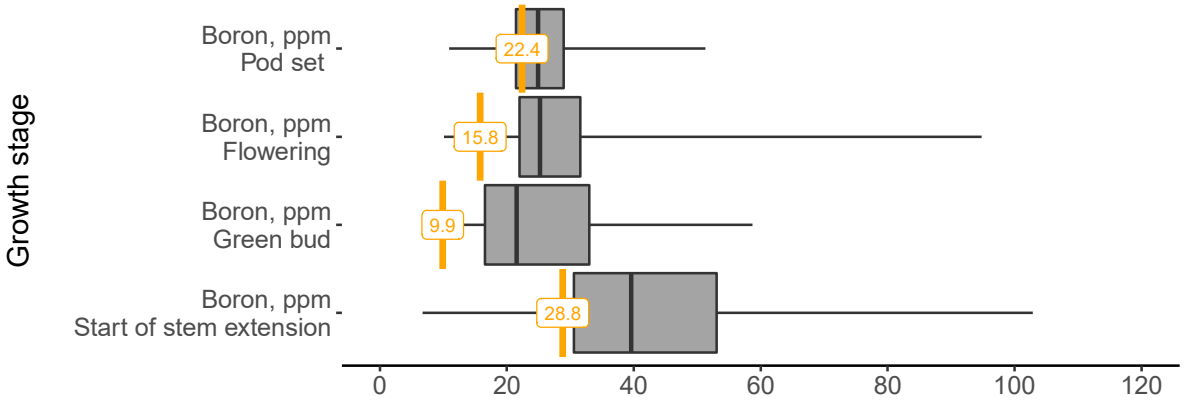

Growth stage
Calcium, % DM
Pod set
Calcium, % DM
Flowering
Calcium, % DM
Green bud
Calcium, % DM
Start of stem extension
1.3
2.1
2
4.8
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0

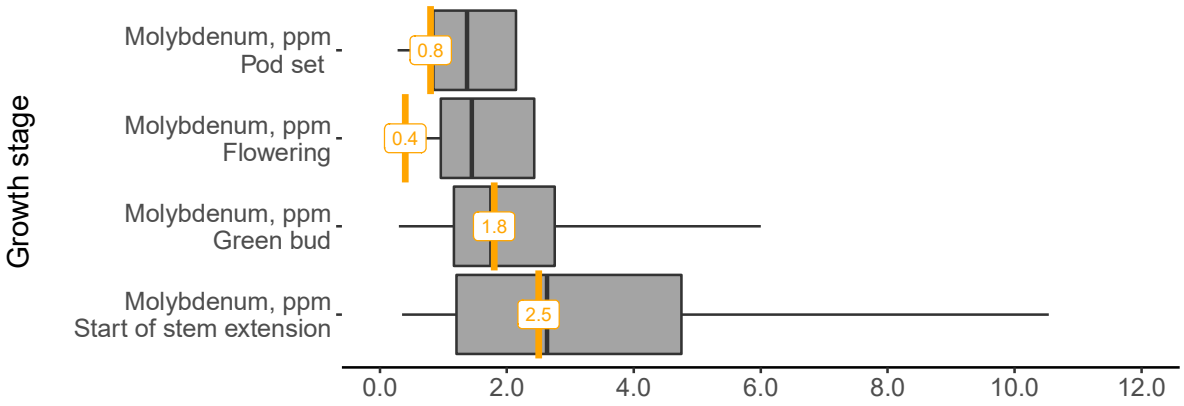

Growth stage
Iron, ppm
Pod set
Iron, ppm
Flowering
Iron, ppm
Green bud
Iron, ppm
Start of stem extension
160
97
256
179
0
500
1,000
1,500
2,000
2,500


Growth stage
Manganese, ppm
Pod set
Manganese, ppm
Flowering
Manganese, ppm
Green bud
Manganese, ppm
Start of stem extension
27.6
36.6
59.4
156.1
0
50
100
150
200
250


Growth stage
Zinc, ppm Pod set
Zinc, ppm Flowering
Zinc, ppm Green bud
Zinc, ppm Start of stem extension
41.4
44.5
40.7
40.8
0
30
60
90
120
150


Growth stage
Copper, ppm Pod set
Copper, ppm Flowering
Copper, ppm Green bud
Copper, ppm Start of stem extension
5.5
5.1
5.6
4.6
0
10
20
30
40
50
60
70
80


Growth stage
Boron, ppm Pod set
Boron, ppm Flowering
Boron, ppm Green bud
Boron, ppm Start of stem extension
22.4
15.8
9.9
28.8
0
20
40
60
80
100
120

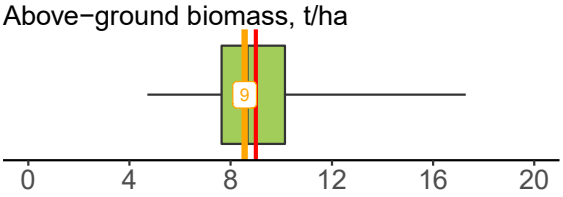

Growth stage
Molybdenum, ppm Pod set
Molybdenum, ppm Flowering
Molybdenum, ppm Green bud
Molybdenum, ppm Start of stem extension
0.8
0.4
1.8
2.5
0.0
2.0
4.0
6.0
8.0
10.0
12.0

Yield formation

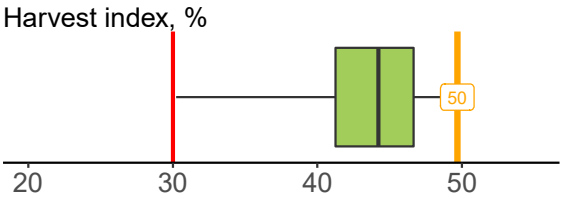
The graphs below show the yield components, and quality parameters for your crop, determined from the samples that you provided. These tell us about the history of your crop because the key yield components are determined sequentially. These 'components of yield' help to indicate the stage(s) through the season at which your crop deviated from normal (represented by the benchmark value).

- Seeds/m^2: This is determined during a 2-3 week period starting from mid-late flowering. More seeds are set when the rate of canopy photosynthesis is high.
- Thousand seed weight: Seed filling depends mainly on photosynthesis after pod development and is therefore reliant on canopy health and longevity. Relatively few sugars stored in the stem from before flowering are relocated to the seed.
- Oil content: The majority of oil is accumulated during the second half of seed filling. Therefore, prolonged healthy canopy duration and greater rate of photosynthesis during this period are important for high oil content.

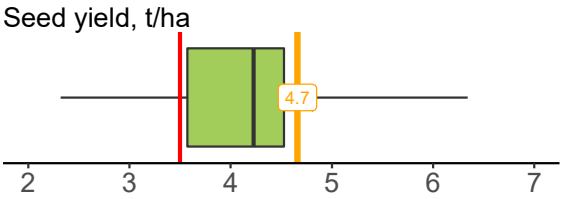
Your seed yield is converted to Gross output, accounting for oil content, and is expressed as t/ha and % of potential).



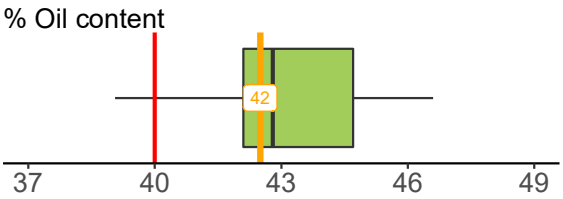
Average biomass was around 9t/ha in 2021, which was on the low side. Crops with a total biomass below 9t/ha are probably low yielding.



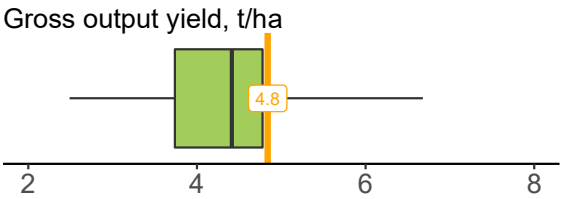
Harvest index is the percentage of total biomass that was harvestable as seed; values were quite high in 2021, with an average of 44%.

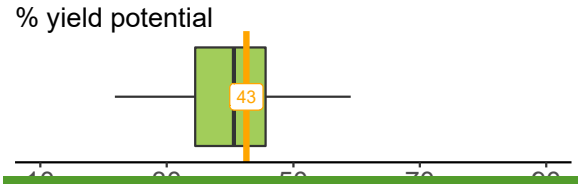


YEN yields average 4.2t/ha in 2021, this compares to 4.3t/ha in 2020, 4.8t/ha in 2019 and 4.7t/ha in 2018. Yields below 3.3t/ha are less than the UK long-term average.

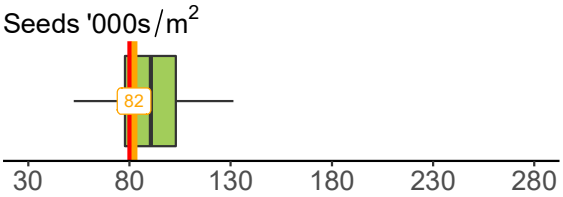


Average oil content for 2021 was 43%, which was similar to 2020, and slightly lower than oil content measured in 2019 of 44%.

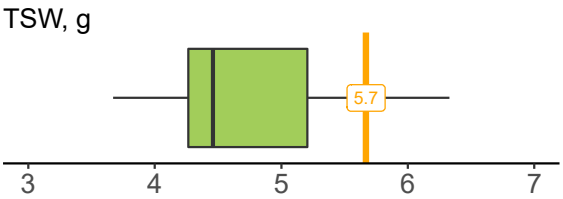




Yields achieved by YEN entries in 2021 averaged 43% of their estimated potential, which was consistent with 2020 crops.



YEN entries averaged 91,500 seeds/m^2 in 2021, which was on the low side. Values below 80,000 seeds/m^2 are likely to be low yielding.

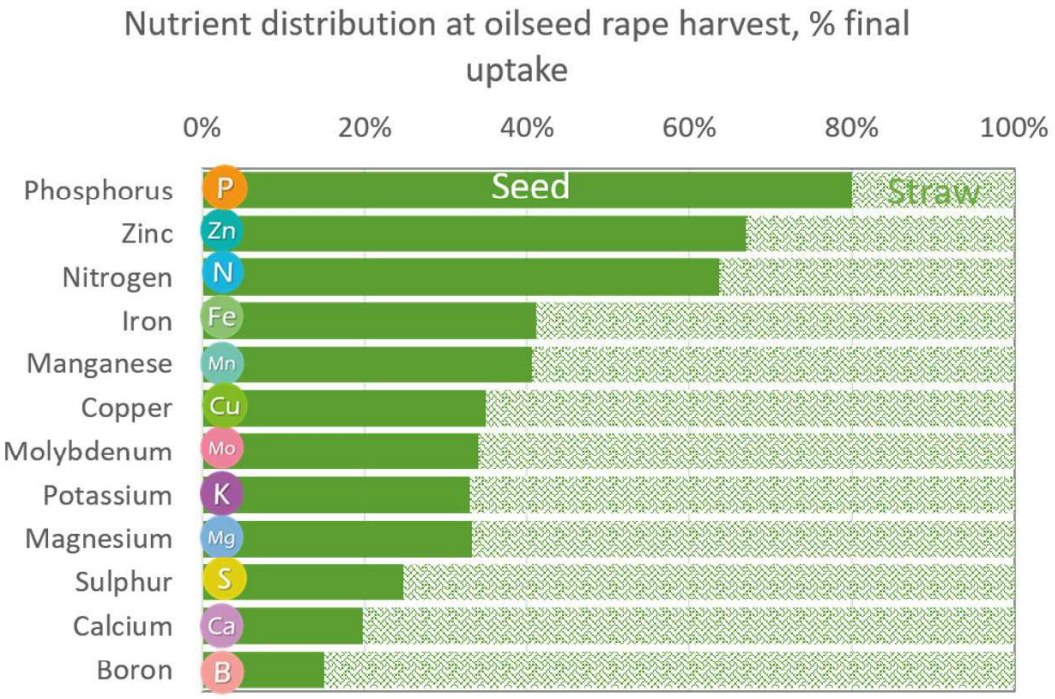


A TSW below 4 g is probably low yielding.

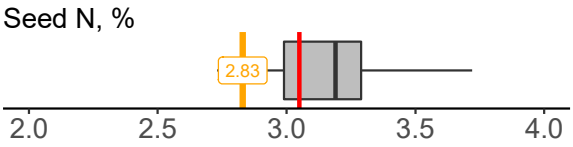
Seed Analyses

The YEN has trail-blazed use of grain analysis to provide an overall post-mortem on each crop's nutrition.

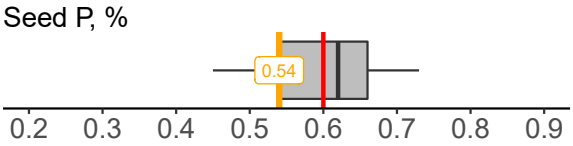
- Results from ~250 YEN OSR samples analysed up to last year suggest that the nutrients harvested in the seed for many crops is on the low side, and many crops could be deficient.
- YEN Nutrition was therefore launched in 2020 to provide an opportunity for the sharing of grain/seed analysis, yield, nutrient input data, to further our understanding – further details and registration are available here
- Crop nutrients differ in how they are shared between grain and straw at harvest. The graph below shows how different crop species store most of their N and P in the grain but most of their K in the straw (as estimated from analyses of feed materials).



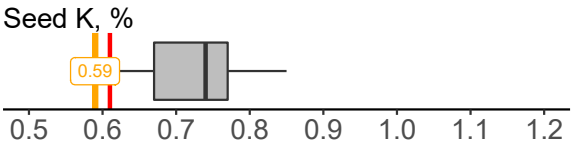
- This year we are using YEN-low values (i.e. lower quartiles from all past YEN data – the boundary between the bottom quarter and top three-quarters of all YEN values since 2013) as comparators for all nutrients in all crops. We find YEN-low values to be very similar to known critical thresholds of N, P, S and Mn in wheat, as well as to less certain critical values of K, Mg, S and Zn, so we assume they can be applied for all nutrients in all crops.
- As there is uncertainty around the critical level of each nutrient in the seed which indicates a deficiency, the following benchmarking-charts provide the best means of identifying the nutrient(s) most likely to have limited your crop – compare your value with the mid-half of all the other YEN entries.
- The following benchmarking-charts and YEN-low values provide the best means of identifying the nutrient(s) most likely to have limited your crop.



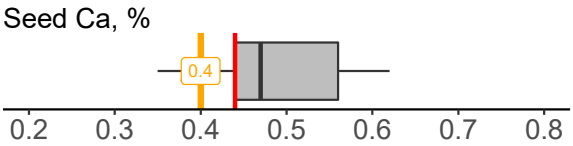
If seed N is less than 3% this is likely to impact negatively on yield due to a low N supply. Few crops appeared to be significantly low in seed N.



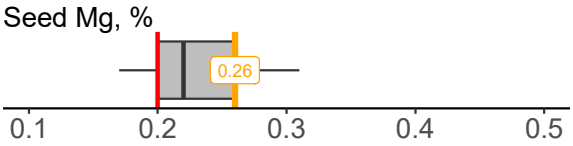
Phosphorus values are assumed in the AHDB nutrient management guide to have a standard value of 0.9% P in seed. The average seed P level was low at 0.6% in 2021.



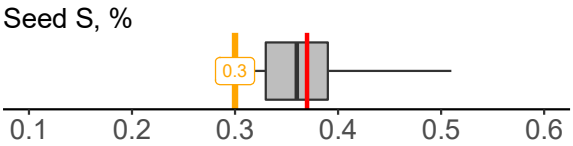
Potassium values are assumed in the AHDB nutrient management guide to have a standard value of 0.55%. Few crops appeared to be low in K in 2021.



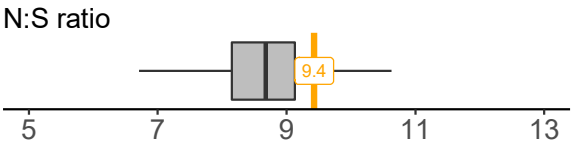
Plant calcium levels tend to reflect adequacy of moisture supplies. Most of the plant's calcium remains in the stem at harvest. This entrant had a seed Ca concentration of 0.4 mg/kg.



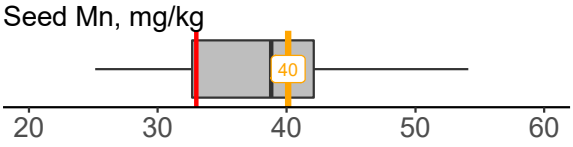
Magnesium has a principal role in plants as an essential component of chlorophyll. Low Mg levels in the seed were present in some 2021 crops.



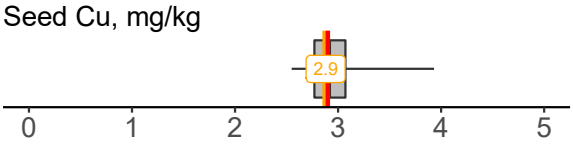
Sulphur is required for oil synthesis and is important for storage protein formation. A small number of crops had low S levels which may indicate a deficiency.



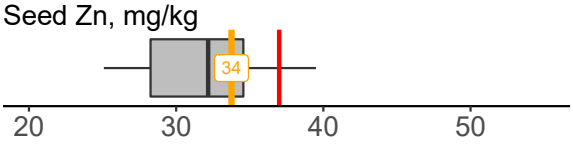
Sulphur is required in proportion to N supplies. High N:S ratios of 9 indicate likely S deficiency, which may have affected some crops in 2021.



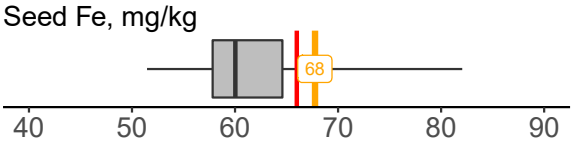
Manganese regulates key enzymes involved in protein synthesis, lipid metabolism and photosynthesis. The majority of crops in 2021 appeared to have adequate Mn levels in the seed.



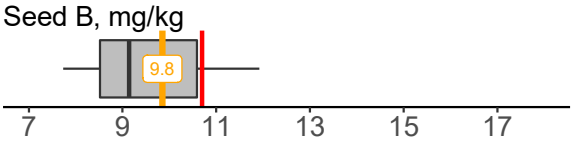
Copper is required for production of viable pollen for seed production, maintenance of the cell wall structure and is an essential component of many proteins. A few crops had seed copper levels that were on the low side.



Zinc is a component of enzymes involved in photosynthesis, sugar formation and protein synthesis. Many crops displayed low zinc levels.



Iron is required by chloroplasts for metabolic reactions including photosynthetic electron transport and chlorophyll biosynthesis. We currently do not have information for typical oilseed Fe concentrations.



Boron deficiency leads to abnormal cell division, which affects growing points causing tissues to become distorted. Typical seed concentrations is reported at 20 mg/kg. This entrant had a seed B value of 9.85 mg/kg.

SUMMARY

The 2020-21 competition:

- Congratulations and thank you for providing the information necessary to complete this report; the collective effort of all YEN contributors serves to maximise the value of the results that can be reported and deductions made. We call this approach 'share-to-learn', and believe that the whole industry would benefit by making this approach their normal practice.
- Given the recent challenging conditions caused by CSFB and poor weather conditions, we were pleased to have 69 Oilseed YEN entries this year. The more participants we have, the more robust and confident we can be in the comparisons we make, both at the individual 'benchmarking' level, and when analysing the whole set of data.
- The winning field yield in 2021 was 6.7 t/ha (in Lincolnshire), a remarkable achievement.
- This was the 9th year of YENs, and 5th year for Oilseed YEN. As each YEN year passes and as more YENs develop, we are increasingly struck by the farm to farm differences, some farms are consistently achieving high yields, and several farms have achieved YEN Awards over several seasons. It is evident that a 'farm factor' is playing a big part in governing yield levels. This gives real value to being a YEN participant - through having an opportunity to compare with and learn from others.
- This season we included an Establishment Beauty Contest in Oilseed YEN, which was sponsored by AHDB. A total of 48 crops were entered into the contest. The crops were judged against the following criteria: plant establishment, even plant spacing, uniformity of plant size, plant vigour, plant health and absence of weeds. There winners were as follows:
- Early drilled category: Robert Fleming, Scottish Borders sponsored by Limagrain with a crop of LG Aurelia drilled on 8th August 2020.
- Normal drilled category: Stuart Russell, Lincolnshire sponsored by DSV with a crop of Duke drilled on 31st August 2020.
- Late drilled category: Rob Fox, Warwickshire sponsored by AHDB with a crop of LG Aurelia drilled on 1st September 2020.
- The average gross-output yield for Oilseed YEN in 2021 was 4.4t/ha, which was close to the 2020 average of 4.5t/ha. Provisional DEFRA yields for 2021 have increased from 2.7t/ha in 2020 to 3.2t/ha in 2021 (which is just below the five-year average of 3.3t/ha).
- The lack of increase in the 2021 Oilseed YEN average yield compared to 2020 is probably due to entrants focussing on crops which were not too seriously affected by CSFB in 2020.
- In 2021, across all crops, the average number of seeds/m2 was modest, it is possible that the cold April delayed much of the seed setting into May when it was very dull and this restricted seed set. In some crops, the wet winter affected root growth and plant vigour which may have had a general impact on growth rates throughout the season. Average TSW was on the higher side, meaning that conditions during seed filling and the fact that there were fewer seeds to fill confirmed sink limitations to yield in many cases.

Comments on the next page are generated automatically from your data, with the aim of high-lighting features of your crop which may point out routes to yield-enhancement on your land.

SPECIFIC COMMENTS ON THIS ENTRY

Growth yield:

- High YEN yields have generally been associated with large plants with many seeds. Your yield arose from a low total biomass and a high harvest index.

- Your crop is estimated to have had a TSW of 5.67 g, which is a high TSW. TSW can be small either because of low storage capacity or poor conditions for filling.

- Your is crop estimated to have contained 82310 seeds/m2 at harvest, which is a normal number of seeds/m2. Crops with less than 80,000 seeds/m2 are likely to not achieve high yields.

Crop Nutrition:

- Your seed is estimated to have had 2.83% N. Less than 3.05% indicates a need for further checks on N nutrition.

- The calculated seed N offtake for your crop was 120 Kg/ha.This seed N offtake is unlikely to have constrained yield

- Your seed is estimated to have had 0.54% P. Less than 0.6% indicates a need for further checks on P nutrition.

- Your soil K was 95.85 mg/l. Levels below 120 mg/l can indicate deficiency.

- Your seed is estimated to have had 0.59% K. Less than 0.61% indicates a need for further checks on K nutrition.

- Your seed is estimated to have had 0.3% S. Less than 0.37% indicates a need for further checks on S nutrition.

- Your seed is estimated to have had 9.85mg/kg B. Less than 10.7 mg/kg may indicate a need for further checks on B nutrition, although we are still learning about how useful seed analysis is for B.

Short review of Cereal YEN 2020-21

Cereal YEN saw completed entries from 203 crops in the 2021 harvest season, including 42 spring barley and oat crops, with an average yield of 10.4t/ha. As last year, the winning field yield in 2021 was 15.6 t/ha (in Lincolnshire). Yield potentials ranged between 11.4 and 22.2 t/ha, with entries averaging 65% of potential achieved. Winter cereals established well in most incidences, with a cool and bright spring supporting high ear numbers. However, this was followed by a disappointingly dull summer which resulted in unrealised potential, and poorly filled grains. This was reflected in low harvest indices as crops with high shoot numbers failed to achieve sufficient grain fill., generally the dull summer was the biggest constraint on yields.

Update on Wheat Quality Competition

The YEN Wheat Quality Award, sponsored by UK Flour Millers, will take place aga in 2022. All Group 1 wheat entries which provided a large grain sample are entere and the best will be short-listed. Following breadmaking analysis and assessment th winners will be announced during the AHDB Milling Wheat Conference on Tuesday 22nd February 2022. There will be in person or online attendance options. Look out for more information in the coming weeks on the AHDB events pages

AHDB events

Several AHDB Monitor Farms entered the YEN competition for 2021 and YEN will be included in a number of upcoming monitor farm meetings, please visit the AHDB website for more details. The AHDB Agronomist's Conference takes place on 7th December 2021 at the Peterborough Marriott Hotel. Attendance is either in-person or online.

YEN Nutrition

YEN Nutrition was initiated last year because YEN data have indicated that the majority (>80%) of crops have inadequate nutrition, one way or another. This new YEN connects anyone – farmers, advisors, suppliers and academics in the UK or abroad – seeking to improve nutrition of any grain crop – cereal, oilseed or pulse. Membership begins with grain analysis and grain nutrient benchmarking on six or more fields. Further details are available here.

YEN Technical Webinars

We hope you are able to join us for the YEN 2021 Awards and technical webinars. YEN webinars are intended to help you to understand and get the most from your YEN report.

The 2021 YEN Awards - 24th November 2021 to be held at Croptec at East of England Showground, Peterborough, PE2 6XE.

Please register for a free ticket at Croptec, and register for the YEN Awards.

Technical webinars for Cereal and Oilseed YEN will take place at the start of December

- Cereal YEN Technical Webinar - 6th December 2021, 4pm to 5.30pm
- Oilseed YEN Technical Webinar - 8th December 2021, 4pm to 5.30pm

CONTACTS

Please send any comments, observations or queries to the contacts below.

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Or email yen@adas.co.uk for general enquiries. @adasYEN

YEN SPONSORS

The YEN was initiated by industry and is entirely industry funded. We are most grateful to all our sponsors. They not only provide funding but they are fundamentally involved in management of the YEN and in supporting individual farms in making their YEN entries. The YEN would not exist without them!

Visit www.yen.adas.co.uk for sponsors' details, news updates and to register for 2021.