

# Seasonal challenges

## Wheat performance

After a season that presented a combination of weather conditions that left growers unable to act, and then chasing their tails, *CPM* takes a look at how wheat crops performed and what the main issues were.

*By Melanie Jenkins*

**A rather peculiar year has resulted in reports of high levels of lodging and low specific weights in wheat crops. So what happened, how have varieties coped and what can be done to be more prepared for the coming year?**

February was a fairly dry month, meaning a number of growers went on with fertiliser expecting to be back in the field to apply a PGR within a few weeks, says Agrii's John Miles. "But March was a wash-out in many places and conditions were difficult. It provided exactly the opposite of the conditions we'd want, with over 100mm of rain."

And the wet March conditions also opened the door wide for disease to run rampant through crops. "There was a huge amount of disease about because of the

conditions. Septoria got a particular hold on crop, so that by the time people got onto crops in late April to apply a T1, the septoria was very evident."

In the trials John looked at, there were certain varieties that stood out as being cleaner, while others were dirtier. "Although it was early in the season, this did correspond with how we'd have ordered varieties. The poorer ones already had septoria in leaf three, but we weren't surprised by this because of the early pressures."

### Caution needed

But other varieties, such as Champion (scoring an 8.1 for resistance to septoria on AHDB's Recommended List), Fitzroy (7.4 in Agrii's data) and KWS Extase (7.8). However, John was cautious about drawing conclusions so early in the year because varieties like Extase were faster moving and leaf three was out ahead of other varieties such as KWS Dawsum and LG Typhoon. "These two varieties were very slow to move the spring, so Extase was under high pressure, whereas Dawsum's infection period was potentially smaller."

Much of the pressures crops experienced did stem back to establishment date last year, he says. "Those varieties which were drilled in mid-September were under much higher pressure than those planted in

**“ A PGR is almost an insurance policy, if you don't pay in, it won't pay back. ”**

October," he explains.

"Dawsum, for example, has been touted as a Costello type, meaning it should be stiff and clean, fitting the bill as a variety to



*According to John Miles, there was a huge amount of disease around because of the conditions in March.*

drill early. But as the season progressed to T1 timing this year, it looked to have a really high level of septoria present, but it's rated at a 6.4 on the RL and we know that for every two weeks of earlier drilling a variety loses 0.6 of its score against septoria. So for those that drilled in September and not October, the impact was really noticeable this year."

At a similar time, instances of yellow rust were reported, adds John. "It first appeared early on, with reports of it in the field from the end of February in varieties like Skyfall (3) and KWS Zyatt (3). The yellow rust seemed to disappear for a time, probably because although March was wet, it probably wasn't warm enough, and we didn't see the disease kick on as we'd expect it to. But by mid-April it exploded."

However, yellow rust only had a short window to have much impact because May became too dry. "Yellow rust struggled to keep the momentum after its explosion in most places, however, many trial sites saw the disease present from February all the way through."

April was a normal month for most, according to John. "But because of the conditions in March, a lot of people were

chasing their tails after having put fertiliser on in February. PGRs and T0 sprays weren't applied until early April, as soon as growers could travel. Then by mid-April in England, we were into T1 timing — so there was a good window early doors where crops were quite exposed."

## Early fertiliser

In the eastern counties, John has observed more fertiliser being applied early, with many going on in February this year during the good conditions. "Top dressings used to consist of 30kgN/ha but now we're seeing anything from 60kgN/ha to 90kgN/ha. Between this and PGR programmes being so late, it raises questions about how well they worked. The PGRs appeared to work but then a number of crops fell over, so the question is why?"

Across southern England there was a reasonable amount of rain at the beginning of May, but the remainder of the month was very dry, says John. "Our trial site in Dorset didn't get rain for 40 days, starting in the second week of May up until 19 June, then there was 20mm and it was dry again for the remainder of the month. This was a long period without a



*Poorer varieties had septoria in leaf three, but this wasn't a surprise given the early pressures.*

reasonable level of rain. Septoria was still present in a lot of our trial plots, but because there wasn't any rainfall it didn't become rampant."

Although May provided a good level of daylight hours and June remained dry, there was no increase in sunlight on May, says John. "In addition, the southern half of the country experienced a week where ▶



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## PGR approach

The early harvest in 2022 meant a lot of growers were potentially able to drill earlier than normal, but for every 10 to 14 days early a wheat crop is drilled, it loses 1 resistance point against lodging, explains Stuart Kevis of BASF.

This is one of the reasons Dawsum might have struggled with lodging so much this year, he says. "Drilled earlier, varieties won't be as resistant to lodging as their score on the RL indicates."

The variety's suitability to early drilling along with the dry February which allowed for early fertiliser applications, followed by delayed PGR applications which went on in a cool April, could well have led to the extensive reports of lodging, he notes.

"Generally, we find that if a T0 isn't applied, growers won't go on with just a PGR, so if the T0 got missed this year and T1 sprays were delayed a little then the PGR was also late. And when PGRs were applied in April, conditions were cool and we know that some actives are less effective in these conditions."

T0 and T1 are the most critical timings for

PGRs, explains Stuart. "You're not just trying to shorten the first lower internode at this point, you're also trying to thicken the lower stem and some actives will impact rooting and the root plate, making it grow better and wider. You can't build this foundation later in the season."

"PGRs applied at the T2 timing are going to shorten the top internode section but won't impact the roots or lower stem."

So the difficulties in applying a T0 and later T1 timings in the 2022/23 season are what could have resulted in a lot of late lodging, he explains. "If a better foundation is built, then crops are able to withstand wind forces better. And where stiffer varieties have fallen over, this could be because their stems aren't flexible and so don't move in the wind. But had a PGR been applied early, this would have provided better anchorage to resist the leverage force of the wind."

To tackle this Stuart suggests looking at T0 and T1 timings differently. "Applying a PGR at these times isn't about the weather at that point in time, it's about what the crop could come up against in the coming months. It's important to understand



*Applying a PGR at T0 and T1 isn't about the weather at that point in time, it's about what the crop could come up against in the coming months, says Stuart Kevis.*

that you're building a foundation and you can't predict the weather ahead. A PGR is almost an insurance policy, if you don't pay in, it won't pay back."

► temperatures were above 26°C in May which likely had a biological impact on crops.

"Most felt that crops didn't look stressed

— in fact, they looked good — but the long period without rain will have had consequences for those on poor soil structure or thinner soils.

"We hoped July would be more forgiving with good levels of solar radiation, it was dull, dark and wet — sites in the East had 80-90mm of rain,

## Northern England and Scotland

In the north of England and throughout Scotland, autumn 2022 was the third mildest on record, allowing crops to be drilled into good conditions. This was followed by a cool February, allowing spring crops to be drilled which, according to Agrii's Jim Carswell, was the right thing to do because of how wet March turned out to be.

"But in the northern regions of Scotland where they'd normally plant in March, drilling was delayed because of the weather, making for a harvest of two qualities and we're still yet to see the full legacy of what this has done to grain quality," he says.

Wheat crops had established well, but the wet March saw septoria really start to get going. "However, the dry May arrested the complete explosion of the disease.

"Interestingly, yellow rust came in earlier in the season than the previous one," he notes. "It was present a month earlier, particularly in varieties such as Skyfall and Zyatt in March and later we saw the disease in Extase (8), Skyscraper (7), LG Redwald (7), RGT Grouse (5), Gleam (5), and to a lesser degree in Graham (8) and RGT Lantern (7). Extase is such a popular variety, I do

feel we could see high levels of yellow rust pressure on it in the future."

Despite high levels of rainfall in July, Jim was pleased with specific weights on the whole. "Considering the conditions, it's a surprise that specific weights were as high as they were — it just shows the leaps and bounds that breeders have made in this direction."

One of the surprises of the season for Jim was the extent of lodging seen in Dawsum. "It's rated a 7 against lodging — both treated and untreated — but we've seen more extensive lodging in the variety in northern England and into Scotland," observes Jim. "I think part of the reason it went down is because of the wet weather in March and April and because PGRs may have been mistimed because of this. But I expect it'll be grown again this season but perhaps with more attention paid to it in the spring."

"However, when crops have been combined, farmers have been pleased with the yields and specific weights. Although specific weights were down on Harvest 22 levels, if you discounted that year, this harvest has been generally reasonable."

According to Jim, although Champion had good



*Despite high levels of rainfall in July, Jim Carswell was pleased with specific weights on the whole throughout the north of England and Scotland.*

standing power in some places, in others it lodged. "The same happened with Skyscraper but Redwald didn't lodge as much as its score (5 for treated and untreated) suggests."

Varieties that stood well include Typhoon, Gleam and Insitor. "The main variety, Extase, will continue strong this year," he adds.

while sites in the West had 80-100mm and the South West trial sites had 100-120mm. This provided an opportunity for septoria to hit in force. So all of the preceding issues were exacerbated by the conditions during grain fill in July," he explains.

"We saw reasonable ears on crops but grain quality was low because July didn't provide the conditions to fill them up. Where crops have done well, they've produced surprisingly good yields despite low specific weights."

But varieties with good septoria scores have done best in most trials, says John. "SY Insitor has had a reemergence because of its septoria rating (6.4) and its good grain quality."

## Tried and tested

Where trials weren't focused by disease but on soil type, Skyscraper performed well and as expected says John. "In southern and eastern regions, some of the tried and tested varieties have done very well. Skyfall and Zyatt are both tried and tested and have done well on farm, meaning growers aren't moving away from them as quickly as anticipated.

"In the East, Gleam also falls into this category — they perform well in different situations and it's why they stick around for so long," he adds. "Other varieties that performed well include Champion Extase and Dawsum."

One aspect John suggests looking at in closer detail is how varieties are blocked together. "Variety scheduling is an area

*After appearing early on in February, yellow rust seemed to disappear for a time, but by mid-April it exploded.*

I think should have more consideration because we can be clever about how we block varieties so that drilling dates and management throughout the year match up.

"There was a lot of talk about how slow Typhoon and Dawsum were to move this spring, whereas Extase was quick. Consequently, where people had blocked Dawsum and Extase together hoping to have one spray timing, they ended up with two. So there's a challenge to block varieties together to allow you to time the workload in sync." ■



*In Agrii's East Anglia trials there were certain varieties that stood out as being cleaner.*

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