

“It’s wet with dew in the mornings and breezy so if it warms up, disease will start to move.”

Crop Doctor

All to play for

The Crop Doctor team go back on tour to assess disease development across the country just as T1 fungicide programmes swing into action. *CPM* gets an insight into how the dry April has affected disease pressure.

By Lucy de la Pasture

Under dramatic skies the ground at the Callow trial site, just a few miles south of Hereford, is already starting to crack. The big fluffy cumulus clouds bear no promise of rain but that’s not an issue yet on the silty clay soil that’s holding on to plenty of water and nutrients to nourish the wheat.

It’s 25 April and just 15mm of rain has fallen in the five weeks since the Crop Doctors last examination, and most of that was at the beginning of the month, reports Bayer’s Gareth Bubb.

It was enough to get the recently applied nitrogen to where the wheat plants need it and most of the varieties at the site are poised on the brink of leaf three fully emerged — the timing for T1 fungicide

application — or with leaf two just visible.

Just a stone’s throw from his base at ADAS Rosemaund, Jonathan Blake says the Callow site still looks backward compared with some of the commercial crops in the county but ‘has improved significantly’ since the Crop Doctor visit in March.

Predominantly dry

Local independent agronomist David Lines agrees and likens the dry period to the weather pattern last year. “With very little rain this month and following a dry March, we’re almost in the same situation as last year, though it’s not as cold.”

And that’s been the saving grace — crops aren’t being held back but it seems that disease has been. A month ago, the Crop Doctors found Callow to be the cleanest of the sites visited, slightly belying its geographical location which should make it under the most pressure from septoria.

If anything, the plots look even cleaner five weeks on, but with a few notable exceptions, says Gareth. “Mildew is easy to find in some of the thicker crops and septoria is mostly confined to leaf five or six, with leaf three and four looking pretty clean. Yellow rust is just creeping into a few varieties, and that includes some of the newer ones, but it’s relatively hard to find and only just starting.”

The trial site at Callow is typical of the rolling Herefordshire countryside and

Jonathan notes that the gradient of the field appears to be having an effect on mildew severity. “The canopy is a bit denser the further you head up the slope and I’ve found more mildew where there’s more leaf. Candidate variety Oxford (rated 6) is showing high levels of mildew on the stem here,” he says.

The exception could be RGT Rashid, which has a lot of active mildew in what isn’t a very dense crop, adds Gareth, which comes as no surprise with a rating of 4.

Prowling through the plots, Jonathan



Jonathan Blake is becoming convinced that the septoria resistance of Extase is beginning to slip now that it’s so widely grown, with more septoria showing up than he’d expect.

becomes particularly interested as he steps into candidate variety Gefion. But it's standing out for the wrong reasons as he describes, with some excitement, 'properly active yellow rust lesions.'

Following his footsteps for a look himself, Gareth reckons 'it's worse than anything else' for the disease. David thumbs through the AHDB data and confirms Gefion is rated 7 for yellow rust and 6 for septoria.

Another newcomer, KWS Webbum, looks to be in line with its septoria resistance rating of just 5. Jonathan looks into the canopy and says, 'it's got septoria in spades.'

Some of the newer additions to the AHDB Recommended List look to be living up to expectations, and Jonathan picks Theodore and Mayflower as appearing to be particularly clean. "There's a bit of septoria at the very base of the Theodore but it's looking pretty green. It's just a shame its specific weight can be a weakness," he says.

Striding into a plot of KWS Dawsum, Jonathan says it's widely billed as one of the more significant new varieties. Pulling apart the canopy, he reveals leaves he wouldn't describe as clean. "It's one to perhaps be careful with as it has a good yield potential and specific weight. It also stands well and isn't too fast in the spring so looks to be an interesting variety."

David notes that Dawsum is only rated a 6.3 for septoria, compared with Graham at 6.7. Taking a look at some of the more established varieties with a slightly higher rating, Jonathan confirms the new growth in Graham, KWS Extase (7.3) and Siskin (6.5) is clean, though septoria remains



KWS Kefion bucks the trend at the Callow site, where yellow rust is hard to find.

active on the lower leaves — five and six.

With yellow rust hard to find, Jonathan heads to look at some SY Insitor and Glean, rated 5 and 6 respectively, but even his eagle eye wasn't able to detect any. David adds that Insitor on farm and in AICC trial plots is similarly free from yellow rust so far this spring.

New addition to the RL, LG Typhoon, stands out among the plots for being noticeably shorter. "It looks like it was drilled a month later than the others," says Jonathan.

On dissecting a stem, Gareth confirms that the variety is a leaf behind the others in terms of development so looks to be getting off to a slower start this spring.

With T1 fungicide timing upon us, the conversation soon turns to strategies, particularly given that dry weather and clean crops poses a question about where to draw the line with fungicide applications.

T1 strategies

Gareth reckons it would take a brave person not to put anything on at T1 in the UK climate and with septoria present on leaf five in pretty much all varieties, to some degree. On top of that, crops look to have more potential than has been seen for several seasons and market prices are strong, he says.

"It's wet with dew in the mornings and breezy so if it warms up, disease will start to move," adds David.

He's opted for Ascra XPro (bixafen+ fluopyram+ prothioconazole) at between 0.8 and 1.2 l/ha for the majority of his commercial crops at T1 and reckons that a decent dollop of prothioconazole will be enough to get on top of the mildew that's common in a lot of crops at the moment. In addition he's recommended thiopron (sulphur) as a multi-site addition to the mix, which follows application of an elicitor, Iodus or Vacciplant (laminarin), at T0.

David believes that all the multi-site alternatives are working equally, which is why he's opted for a lower cost product than folpet. Jonathan says that may be a good addition in light of the mildew in crops at the moment as sulphur has a label recommendation for mildew control.

Gareth says that in Bayer trials, folpet has only given a clear benefit in one season amongst many so this year it's being applied at both T1 and T2 at 1.5 l/ha, instead of the 1.0 l/ha used previously, to see if more consistent yield effects can be identified.

Joining from her SRUC office in



At DH Hoyles' farm in Long Sutton, it's probable an SDHI will be 'saved' for application at T3 to help preserve specific weights, says Henry Richardson

Scotland, Prof Fiona Burnett adds that its trials have produced data to show folpet has improved efficacy on disease but that doesn't necessarily come through to yield. However, from an anti-resistance point of view, as a multi-site folpet is bringing some protection to the party for single site chemistry.

Jonathan's belief is that folpet is best used twice in the programme from the ADAS trials work that's been conducted, but he points out the yield benefits are only in the region of 0.1-0.3t/ha from each application which can be hard to pick up in small plot trials.

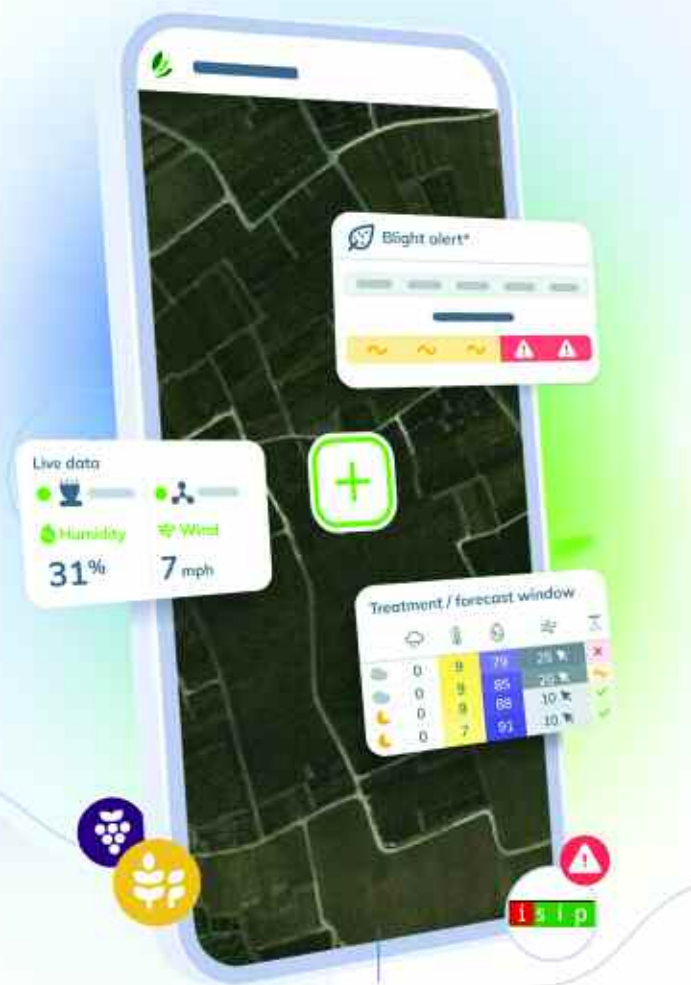
Looking ahead to T2, David is intending to major on Univoq (fenpicoxamid+ prothioconazole). "Where we used Univoq last year in trials and commercially, it was the highest yielding treatment. I'm just not convinced about Revystar XE (flupyroxad+ mefentrifluconazole) ▶



A pustule of brown rust accompanies septoria infection on a leaf of Skyscraper at the Great Tew Estate.

The only app for your daily crop management

- Weather monitoring
- Disease and pest prevention
- Irrigation management



Connect your crops to your station.
Consult forecasts to organise your treatments. Program your interventions according to the weather conditions of your fields.
Connect your favourite DST*



Graham at the Callow trials site – is its septoria rating slipping?

► — I feel it's too reliant on the azole component and when compared with rates of Univoq or Ascra, it appears expensive."

Jonathan adds that the prothioconazole is a sound reason to chose Univoq if mildew is an additional threat to septoria but that he may 'go the other way' and choose Revystar if brown rust is an issue.

Great Tew, Oxfordshire

Popping in briefly to the Great Tew Estate in Oxfordshire, the Crop Doctor team found the crops had moved on nicely, looking generally cleaner than last month. Farm manager Colin Woodward explains that T1 sprays are just being finished off around the farm as he speaks.

"There's a bit of stem-based browning, but it's not particularly bad or penetrating in the SY Insitor and the septoria has dropped back into the base of the canopy," describes Jonathan.

"The Skyscraper is noticeably different, with eptoria present on the tips of leaf five so the risk of disease spread is higher. The architecture of the plant in Skyscraper means that it's rubbing up against leaf three and emerging leaf two."

Walking through the later

drilled Skyscraper, which is on heavy land following oats, Jonathan notes slightly less septoria in what Colin describes as 'a more open crop'. But there's more eyespot, some of which is penetrating, adds Jonathan.

"Although septoria is still present on leaf five, it's at a lower level which illustrates the effect drilling date has on septoria pressure. The lower crop density is also a big factor here," he says.

Mildew evident

Moving on to Siskin, the crop still looks relatively clean, reflecting its septoria rating but, again, eyespot is easily spotted, says Jonathan. "Stem-based mildew is also visible in the thicker crops, particularly the Extase, where perhaps the dense canopy is creating a nice microclimate for it with the overnight dew. Rain acts as an anti-sporulant for mildew so it's a surprise to see it there, particularly as Skyscraper isn't particularly susceptible (RL rating of 7 for mildew)."

Jonathan is becoming convinced that the septoria resistance of Extase is beginning to slip now that it's so widely grown, with more septoria showing up than he'd expect.

Bayer's Ben Giles has a similar impression. "It was very noticeable in variety screens last year that Extase is starting to look closer to Graham and Siskin than to Theodore in its susceptibility to septoria."

Colin says his focus at T1 has been to get prothioconazole onto the wheat to deal with any eyespot. The Extase has received 1.0 l/ha Aviator (bixafen+ prothioconazole), the Skyscraper 1.0 l/ha Ascra XPro and the Insitor has had Elatus Era (benzovindiflupyr+ prothioconazole) to pick up yellow rust in particular.

Ben believes that T1 fungicides will, on the whole, be better timed this spring.

Treat at the right time.
Discover our solutions:



+44 7723 580941

*Integrated hutton criteria - For PLUS Plans



“The very cool, late spring last year meant that many T1s were mis-timed and applied when leaf four was fully emerged rather than leaf three. This year crops are much more where they should be in terms of development.”

Walking into the SY Kingbarn hybrid barley, Ben proclaims it's 'perfect for Terpal', with awns just emerging, the classic paint brush timing, and conditions not too warm. Having received a T1 of Elatus Era, the Kingsbarn is looking much tidier than on the last visit, though brown rust, rhynchosporium and net blotch are still lurking on leaf five, says Jonathan. Tan spot was also found in the crop and it's a disease Fiona says is becoming increasingly common in Scotland.

Long Sutton, Lincolnshire

Two days later under grey skies and whipped by a chilly wind, the variety plots at David Hoyles' farm at Long Sutton look typically well.

“It looks like a big, bold crop — strong and well grown, as we've come to expect here,” says Jonathan.

Joined by farm manager Henry Richardson, the dry weather is the main topic of conversation. “We've only had 10mm rain between 25 March and 25 April so we're tracking the conditions of last April, when we had just 5mm.”

But on year-to-date basis, 2022 trumps 2021 for drought and is currently 66mm behind last year's rainfall, he adds. “As well as the dry weather it's also been cool and windy, with very few spray opportunities here. We've been applying T1s either early mornings or late evening,” says Henry.

In terms of growth stage, most of the varieties have leaf three fully emerged with leaf two beginning to make an appearance. Extase has maintained its forwardness and leaf one can be glimpsed, says Bayer's James Wilkins. “The T1 was applied to the trials site yesterday, with one rep receiving 0.8 l/ha Aviator, another getting 1.0 l/ha Ascras and the remainder untreated.”

The untreated plots give the best indication of disease pressure and it's here where Jonathan gets to work. Compared with the other sites he's visited, most noticeable was the lack of mildew which he says is probably due to the unsheltered nature of the site.

Instead, it's all about yellow rust — a disease for which Long Sutton is a known hotbed of activity, he says. “We found yellow rust a month ago and it's

spread, but there's not as much as there could be.”

James agrees and says it looks like the yellow rust is just getting going, with infection very much present in foci rather than widespread. However, the level of infection varies considerably between varieties.

“KWS Zyatt and Gefion both have high levels — it looks like the candidate variety is highly susceptible to yellow rust,” says Jonathan. But the list of varieties sporting yellow pustules is a long one and includes many of the usual suspects — Skyfall, Insector, Barrel and Gleam — as well as candidate varieties — Zoom, KWS Wrenum and WKS Webbum, to name just a few.

The septoria, which was the highest level of all the sites visited in March, is subdued, he adds. “Most diseases love humidity and the cold wind here in Lincolnshire has meant a lack of dew, which just isn't conducive for them to spread.

“There are differences between varieties, with more in the more susceptible varieties such as KWS Barrel and Skyscraper. Extase has a bit of infection on leaf five in places but mainly on leaf six. Theodore looks very clean.”

James points out that even though it's subdued, there is septoria inoculum in the base of most varieties so infection could kick off with a change of weather. Jonathan reckons that even so, it would take a couple of cycles for infection to reach an epidemic in the cleanest of the varieties.

Brown rust is similarly hard to find as it was in the other regions, with a few pustules in Skyscraper but oddly none in Crusoe, says Jonathan. “It's clearly struggling in these conditions.”

Eyespot is also not in evidence at the site, again probably due to the dry weather, he adds.

With T1s on, Henry says the strategy will be to wait and see what happens before deciding what to apply at T2. “David likes to keep an SDHI application for T3 on this farm and if canopies remain thick then I think we'll favour Univoq. But we'll be playing it hand to mouth, with the aim of picking the right product at the right time.

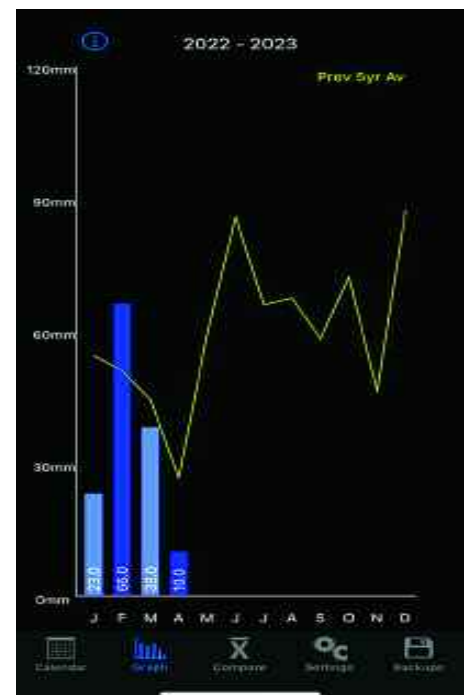
“We're growing relatively disease resistant varieties on the farm — which include LG Astronomer, Graham, KWS Dawsum and KWS Cranium — so we can make use of them to cut back chemistry, if possible, as part of a tailored approach.”



Mildew was a common finding at Callow and Great Tew – seen here in candidate variety Oxford.

James feels that Aviator is an ideal T3 choice where an SDHI can be used (two maximum). “The combination of bixafen and prothioconazole provides fusarium and late foliar disease control. It can be used up until the milky-ripe stage, allowing plenty of opportunity to apply when the crop is flowering.”

James sums up saying the Long Sutton crops look to have lots of potential, with septoria low in the canopy and a little bit of yellow rust pressure building. “It's really all to play for,” he concludes. ■



Rainfall records at Long Sutton show just how dry the start of the year has been.