The new normal for disease control?

What learnings can be taken from last season in terms of on-farm disease control, whether that be at a UK or European level? *CPM* delves into what could be driving the increase in disease pressure for the first of this month's Real Results Roundtables.

By Janine Adamson

With last year's brown rust epidemic catching some growers off guard, questions are being raised regarding whether current fungicide programme approaches are robust enough and if the available chemistry is continuing to deliver required levels of control.

To review learnings from last season and the influence they may have on future wheat disease control strategies, *CPM* hosts senior scientist from Niab, Dr Aoife O'Driscoll; BASF Europe's technical product manager, Dieter Strobel; and cereal fungicide business development manager for BASF UK, Jared Bonner.

Discussions for this BASF Real Results Roundtable explore the disease control landscape for both the UK and at a wider European level.

REVIEWING LAST SEASON

To open the discussion, Dieter provided context on what had been experienced last season at a European level. "2024 was absolutely extraordinary – if we recall, after several years of drought and low disease pressure, we saw an explosion that was a consequence of a very moist and warm winter.

"That had an impact – wheat crops were lazy in rooting however, the diseases weren't lazy. We saw very early onset of rust and septoria which blew up over time with record events and infection levels; that was seen across Germany, France, UK and Denmark.

Fungicide performance
In a fire-fighting scenario, fungicides have to work harder, rather than it being because performance has slipped, suggested BASF's Jared Bonner.

Varietal resistance challenges
According to Niab's Dr Aoife O'Driscoll, a weak point in current plant breeding programmes has been achieving good brown rust resistance therefore, expectations should be managed.

"There were also suggestions that varietal resistance wasn't at optimum performance anymore either, with suspicion there had been a shift. Growers were left frustrated because despite investing, the effects often didn't look good enough."

To further contextualise from a UK perspective, Aoife added: "We saw variability in crop condition across the country as well as variability in weather, drilling windows, soil type and so on. There were many factors contributing to the higher inoculum levels rather than it being products not working as effectively.

"It's really important to stress we had a very unusual season in that regard. So when we're evaluating varietal or active ingredient performance in the field, they were all being tested in a situation that they probably hadn't been tested against before. It took people by surprise but also shows the value of fungicides when compared with untreated or low-input scenarios," she explained.

Jared highlighted that with some growers struggling to find a timely weather window to apply a T0 or T1 spray, both septoria and brown rust were given the chance to infect the base of plants. "That's firefighting before you've even started and once you have that high pressure, all fungicides have to work a little harder rather than it being because performance has slipped."

DISEASE TRENDS

When talking about current wheat disease trends, Aoife suggested that a threat comes from beyond common foliar pathogens. "There are soil-borne mosaic viruses, ergots and other ear diseases like fusarium and microdochium to contend with, all thanks to ideal damp, warmer conditions.

"They also often come together at the same time requiring broadly similar environments, so it's not simply about foliar diseases anymore, it's the changes in weather patterns and what's driving these epidemics to happen and take hold in the first place."

She then questioned whether the conditions experienced last season are becoming the norm. "Maybe we have to accept this rather than tell ourselves it's not going to happen again, and the sooner we do that, the better.

"When you have brown rust early in the season, approaching it in denial means you have no chance really. You have to treat brown rust as a bio-security threat which can't be ignored, using a similar early intervention approach that you might have towards blackgrass."

Jared concurred saying trends in weather data suggest the past five years have undoubtedly been wetter and warmer. "Then, we've just had the news of a record January in terms of temperature, so this year doesn't appear to be bucking that trend.

"If we cast our minds back to how we finished last year with the amount of disease that was in the crop – that inoculum didn't go away. Yes it can be checked with freezing temperatures and frost, but with a warm January, it's definitely something to bear in mind," he said.

VARIETAL RESISTANCE

Moving to the role of plant breeding, Aoife pointed out from a UK perspective, disease resistance breeding programmes have provided much value during the past 40 years. "Both P.nodorum and mildew are now controlled well through the use of durable, quantitative resistance, and look at how much yellow rust resistance has come on too.

"Now we're in a situation where we have a handful of varieties with a score of 9 for yellow rust which is a credit to the breeders."

She explained that when it comes to septoria resistance, one of the reasons why scores aren't as high is because the disease wasn't an issue in the UK until around 20 years ago. "It takes a long time for new sources of resistance to be built into breeding programmes without having a significant impact on yield.

"But a weak point still remains with brown rust and its lack of varietal resistance; we have to manage expectations here. I guess the past season has been a suitable test for any new material coming through, giving breeders the chance to select for brown rust resistance in material and truly putting it to the test."

Jared reminded of the impact of drilling date. "Drilling early or late will shift disease ratings forward or backward; it's not just the number on the Recommended List," he said.

FUNGICIDE PROGRAMMES

Following such a challenging year for growers, the discussion evolved to what impact this may have on fungicide programmes and approaches to disease control. Dieter began by stressing that focussing solely on septoria is no longer wise. "You may be able to spot check with a fire-fighting method for other diseases, but you should be focussing on broader solutions which offer more."

Aoife added that the most effective starting point is to know which active ingredients and products are available and what their strengths and weaknesses ▶

Combatting brown rust
Growers who used Revystar last year in a brown rust situation observed positive results.

Programme management
BASF's Dieter Strobel reminded that Revysol products can be safely used twice within a fungicide programme.

are. "We're in a situation now where there's a considerable product offering; how do you know that each active is giving you the best control for that situation? For example, if you're growing Crusoe, you know septoria is less of a concern, but you have to be looking at brown rust early in the season instead.

"Agility is key, we can't live in a world where you decide on a fungicide programme in November and go with it regardless."

She explained that Niab has adapted its agronomy strategy this year to concentrate on individual actives and early season disease control. "This is in response to expectations around eradicant activity. For one, it's difficult to test that for rust given its fast disease cycle, but also, we shouldn't be relying on an eradicant approach.

"Instead, we're focusing on a programme based on strengths and weaknesses. So for a T0 in a high rust situation, we'd be suggesting a 75% dose of tebuconazole with 0.4-0.8 l/ha of Comet (pyraclostrobin).

"We also have to acknowledge the importance of having other azoles in the programme. With two new SDHIs in the market we have to protect those as best as possible. For broad-spectrum azoles which cover most of the target diseases we have prothioconazole, tebuconazole and mefentrifluconazole (known as Revysol), with Revysol as the stand-out. You really want that to be in there at T1 or T2 timing," she advised.

Dieter added that provided product stewardship is adhered to and actives are selected depending on disease risk, he doesn't believe a dramatic shift in approach is required. "It's more a mindset change and understanding that fungicide performance wasn't as disappointing as is being suggested.

"The fact is last year, yields were disappointing – in France, Harvest 2024 was one of the lowest of the past 40 years because of the poor crop conditions. However in this last season, we're achieving an additional 40% of the untreated yield on top thanks to fungicides; whereas in Germany, we saw a 25-year record for fungicide-treated versus untreated yields as well.

"This should give some confidence in programmes and that fungicides are doing a good job," he commented.

REVYSTAR XE

To expand on the role of Revysol, Jared said Revystar XE (fluxapyroxad+ mefentrifluconazole) is not only effective on septoria, but also brings yellow and brown rust control as well as eyespot. "That's due to it being a combination of Revysol and Xemium (fluxapyroxad).

"We've also received positive feedback from growers who used Revystar last year in a brown rust situation, and the AHDB fungicide performance curves show good activity from Xemium too. It's a powerful product within our portfolio."

Aoife agreed: "There's no question that Revysol is the strongest azole we have against brown rust, and is one of the strongest actives for septoria with useful activity against yellow rust. Keeping it for T1 or T2 is a very useful tool in resistance management strategies and we should acknowledge that benefit."

Dieter then reminded that Revysol products can be used twice in a programme. "There's hesitance with some of the newer active ingredients regarding whether they should be used twice, or even if that's allowed. Indeed, often it's not permitted from either a resistance or regulatory perspective.

"But here's the advantage of the azoles – we've known this class for 40 years. It would be naïve to think septoria will never break Revysol, but it'll take decades as it requires specific, multiple mutations coming together. This is very different from other modes of action."

FINAL THOUGHTS

To wrap up the conversation, Dieter raised the topic of climate change and observations from the continent. He said although winter wheat crops were reaching early growth stages much more quickly, there didn't seem to be a major impact on harvest date. "That means there's a stretch, and if you nail it down, it seems to mainly be at T1."

Aoife added: "For the UK, I'm not sure if the gap is becoming longer between sprays but some growers are noticing that they come back two weeks after a T1 and disease pressure is still going. It's becoming more like a blight programme going in every two weeks, although the options you can use in that situation are quite limited.

"I think we just have to accept that we're in a big state of flux at the moment and therefore managing expectations across all fronts is key," she concluded.

Real Results Roundtable

BASF's Real Results Circle is a UK-wide agricultural network now in its eighth year. The initiative is focused on bringing together growers, industry experts and BASF to create a more resilient farming system that's sustainable for farm business profit, for the people we feed and for the planet we live on.

Real Results Roundtable is a new initiative which explores related topics, such as resilient disease control, environmental stewardship and return on investment. Roundtables centre around Real Results Circle farmers and associated experts from the wider industry.

By coming together to openly discuss and therefore face challenges as one, we can find out what really works and help to shape the future of UK agriculture.

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