Cereal disease control

No one right answer

Given the highly variable field conditions across the country, devising an effective spring fungicide programme may feel like an insurmountable feat. Although it's difficult to predict impending disease pressure with so many unknowns, *CPM* speaks to experts for their thoughts.

By Janine Adamson and Rob Jones

Yet more storms and wet weather, and as a result, unknowns-aplenty. At the time of writing (end of January), it could be viewed as almost unfair to ask industry experts to make predictions for cereal disease control this spring.

However, one theme holds strong among all — get out, walk the crops and evaluate. "There's no one right answer this year," says SRUC's Professor Fiona Burnett. "It's very much taking an individual on-farm view; look beyond disease scores and consider practical aspects in hope of buying some flexibility," she says.

According to Fiona, there's a 'bigger than ever' spread of crops. She says in Scotland, whereas some growers have reasonable potential in the ground, others will have to take drastic action. But regardless of crop status, she stresses the importance of abiding by fungicide best practice.

"For early drilled crops, in reality, we've seen relatively few cold snaps to knock back disease but in Scotland, levels currently remain low — only traces of septoria and no yellow rust. This is of course a positive message.

"So with that in mind, I'd be avoiding marginal sprays at T0. There are major concerns around fungicide sensitivity so spraying at this timing should never be a blanket approach," she says. "Of course if you do have early yellow rust, then absolutely treat the crop."

Field travel

But being pragmatic, she also reminds that in a year like this, spray windows can be rare in Scotland. "If you're in a risky disease area with historical problems, having something on a crop through a T0 spray isn't a daft idea. That's because of the risk of not being able to travel later on. If you do use a T0, go and check the crop after and be reactive."

At the other end of the spectrum are those who've drilled winter wheat in January and may even be considering February planting. In this situation, Fiona says fungicide approach will be very different.

"Although septoria pressure will be low in these very late drilled crops, there'll be the risk of yellow rust so aim for an ▸

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Professor Fiona Burnett advises avoiding marginal sprays at T0 due to concerns around fungicide sensitivity.

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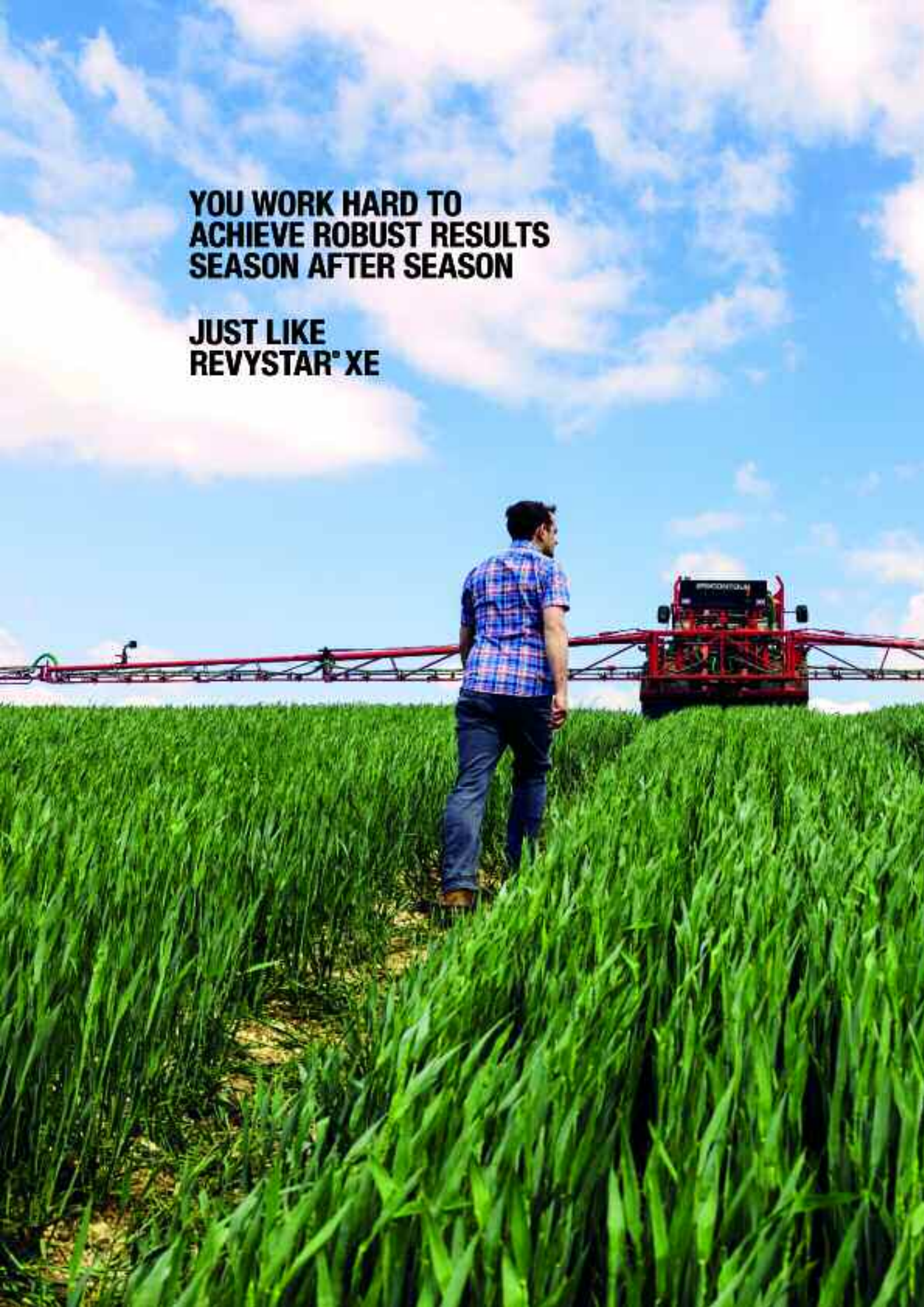
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▸ all-encompassing T1 spray with the usual diversity to alleviate resistance issues. Look at an azole+ SDHI+ folpet mix, but all at lower doses in recognition of the lower yield potential," she says.

For NIAB's Dr Aoife O'Driscoll, she believes in most scenarios, variety choice should act as a T0. Her go-to chain of command is variety, plant health products, then consider multi-site and azole chemistry. "Most biostimulants and products used to improve plant health don't have a direct effect on spores of the target pathogen, but they do improve a plant's natural defence, an example being elicitors. T0 and T1 are the most effective timings for these products as it's when stress is likely to be at its highest.

"Inoculum will always be lurking in the air and soil, but management can help to mitigate the effects and increase resilience," she says.

Aoife also stresses the importance of wider management practices such as crop hygiene to prevent both disease and weed seed transmission, and to test home-saved seed.

Disease watch-outs

But for T0s in the South in particular, she says low risk crops of a resistant variety with minimal disease pressure shouldn't be sprayed unless yellow rust is present, in which case, opt for tebuconazole or a strobilurin. Her other watch-outs include mildew, and then take-all in second and third early-sown wheats.

Fiona also champions plant health products such as elicitors because of their role in fungicide resistance management strategies.

"SRUC trials have shown the potential of elicitors in being able to reduce the dose of fungicides, which is of course a real plus and offsets the additional investment. But equally, this is a benefit for resistance management because they're very low-risk in comparison with conventional chemistry.

Dr Aoife O'Driscoll believes that in most scenarios, variety choice should act as a T0.

"Elicitors used in combination with fungicides in lower input programmes appears to yield the best results," she says.

According to Farmacy's David Howard, insight to help devise a route forward this spring could be available within farm records. "Don't forget to look back at yield maps during comparable years, for example, 2019. Field variation is remarkably similar year-on-year.

"Look at how those crops performed as a guide for what to expect, as with waterlogging comes a yield penalty. Concentrate on the worthwhile areas and avoid over investing in high risk areas such as headlands," he says.

But more importantly, David believes it won't pay to make rash decisions right now. "How quickly will crops recover and come back is a question that we can't answer, nor do we know the extent of disease pressure as yet. I wouldn't be making restrictive decisions or it could become a self-fulfilling prophecy."

He agrees with the sentiment of regularly walking crops to assess damage and then later in the season, recovery. "I'd be looking at plant and tiller counts to understand just how affected you are and what you can target to improve. If there is a yield penalty as a result of

adverse conditions, it'll be imperative to match input spend to both yield potential and disease pressure.

"Judging fungicide timings will prove difficult but then there's the issue of PGRs — if we see rapid catch-up growth this can often be frothy and weak. And with poor rooting from the autumn, there'll be no lower structural support for those crops," explains David.

Strategic use of PGRs will divert energy away from apical growth and into rooting and tillering, he says. "But it's a case of when can you get on the land and what can you feasibly do. It's all a balance."

Aoife agrees with David that input versus output will be front of mind for many. "It'll certainly be beneficial to manage spend at this point given the seasonal challenges so far. Consider whether you'll really get your money back from a T0 spray," she says.

Farm Manager Philip Vickers says anything could happen yet but with smaller canopies comes less pressure. He also selects resistant varieties with solid disease profiles as part of the farm's strategy to reduce synthetic inputs.

During a recent 'do disease differently' webinar hosted by UPL, the topic of establishment method versus disease was raised. In response, Philip explained that although he suspects direct drilling alone could increase susceptibility, wider management techniques would offset this pressure.

"If you're direct drilling as part of a regenerative approach, variables such as optimising nutrition and reintroducing livestock would likely reduce the threat of disease. So it's about the whole package and rethinking the system," he says.

From a barley perspective, SRUC's Neil Havis agrees that direct drilling inevitably increases the risk of trash-borne diseases. "We're seeing a lot more rhynchosporium in crops which are established this way. It can certainly have an impact," he says.

Fungicide performance

Looking ahead for later in the season, there's good news for Univoq (fenpicoxamid+ prothioconazole) fans. Independent trials organised by AHDB have shown that the product continues to perform against septoria and rusts.

The trials, which entered their 30th year, monitor the performance of different fungicides both as straights and as coformulations. With a unique site of action, Univoq has no cross resistance to any other chemistry used on farms today, says Corteva's Craig Chisholm.

"It's consistently proven its ability to control key diseases, most notably septoria. The 2023 AHDB fungicide trials back up what farmers have seen in the field for the past three seasons — Univoq and the Inatreq active provide robust control against key diseases and great yield returns."

Don't forget to look back at yield maps during comparable years, for example, 2019, says David Howard.

Individual trial data isn't published, but the AHDB report says that, as in previous years, Univoq consistently demonstrated a superior yield return compared with the other fungicides trialled. ■

Not forgetting weed control

The success of spring post-ems is heavily reliant on conditions around the time of application. In recognition of this fact, a tool is being developed to help optimise Atlantis Star (mesosulfuron+ iodosulfuron+ thiencarbazone) applications.

The idea originated in Denmark as the Cossack Tool, which provides application guidance based on temperature. In the UK, experience suggests that sunshine on the day of application is also an important factor, so Bayer is currently testing a revised tool for launch in spring 2025.

For applications this season, there are several steps farmers and agronomists can take to optimise the efficacy of Atlantis Star, as demonstrated by Berkshire agronomist, Tony Bayliss. He says he was pleasantly surprised by the product's post-em efficacy on blackgrass last spring, but that the right conditions are essential for it to be worth applying. "It was a pattern of good control on several farms even where there is some metabolic resistance.

"When planning last year, I questioned why we're spending on mesosulfuron+ iodosulfuron products, but Atlantis Star took me by surprise. The addition of thiencarbazone seemed to make a difference — in some cases, 80% control and the remaining 20% remained stunted with small heads until harvest," he explains.

Tony encourages farmers to apply as early as possible and last spring, conditions were perfect at the start of February. "The earlier you apply, the better. We applied some as early as 1 February on a clear, sunny day. I'm a big believer in high UV levels so the plant can take in a large dose rapidly.

"And in February, weeds are still small which also helps. If you have back-to-back bright days, then I think the efficacy goes up again," he says.

However with early season applications comes potential compromises. Tony suggests being pragmatic and that the leaf doesn't have to be totally dry at the time of application provided it's sunny and drying.

Clear skies can also mean low night temperatures which may deter farmers. But Tony says unless there's a hard frost, he still recommends applying to take advantage of high UV.

"There are often days in February when it's sunny and reaches 8, 9 or 10°C. If the opportunity arises with this type of weather, get on and do it."

He also noticed improved broadleaf weed control where the post-em went on early, but urges growers to be mindful about following crops particularly oilseed rape.

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