



Cereal disease control

Input versus output

With no letup in weather conditions, questions continue to be raised regarding balancing fungicide spend with crop yield potential. CPM spoke to four independent agronomists for their take on the situation.

By Janine Adamson

If there was little inclination for how the season would pan out in the February issue of CPM, it appears to be no better a month later. For many, the rain and associated misery continues, but the key message from many agronomists is to not lose hope yet.

“We’re still speaking very academically as there’s not much that can be done practically at the moment,” says Association for Independent Crop Consultants (AICC) member and Ceres Rural agronomist in the Shrewsbury region, Dan Matthews. “What we can say is it feels as though spring will be short; the long-range forecast suggests an unsettled March.”

Dan believes that where there is an opportunity to travel, for those with winter cereals in the ground, there’ll be much to address in a very short space of time. “In that window, growers will have to balance nutritional deficiencies, present disease pressure and weed management all at once. It won’t be easy.”

Love and attention

Agronomist Will Spurdens, also with Ceres Rural and the AICC, says the first port of call is to give crops some love and attention, and that fungicides should remain the final armour in a disease management programme. “Even with the huge spread of crops on the cards, all will require a level of nutrition. In some cases, it’s the more forward crops which will be hungry and require nitrogen quicker than a smaller, more backward crop. Equally, the role of trace elements shouldn’t be neglected,” he stresses.

Dan agrees that given the multitude of challenges this season, fungicides could be perceived as less of a priority. “Soil-based nutrition is very depleted this year so there’s likely to be a lot going on in tank mixes when there is an opportunity to travel. It might seem obvious, but being organised will pay dividends.”

He says because some growers will have a greater area of spring crops to drill than usual, it could be tempting to let ▶

“ Be regimented with timings if conditions permit, there’s no margin for error ”



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According to Will Spurdens, even with the huge spread of crops on the cards, all will require a level of nutrition.

▶ those take precedent over what's already in the ground. "Margins should still be good for those winter crops even if they're not at their best. Be regimented with the timings if conditions permit, there's no margin for error."

Across their region, both Dan and Will have noted some 'strange things' happening in crops due to the extreme conditions. "We're seeing brown rust which is unexpected but will of course be a result of high stress plus the recent mild temperatures," says Dan. "Equally, septoria pressure is high in forward crops depending on varietal resistance."

Will echoes messaging from February CPM — strategic use of biostimulants and PGRs will help to divert energy into rooting to aid crop recovery, he says. "However, whether it's fungicides etc or plant health

products, calculating the appropriate spend based on yield potential and disease pressure will be imperative," stresses Will.

Being pragmatic, Dan says in reality, there's not that much between current fungicide product options as growers head into T1s. "In the West, the main problem is always septoria and when it comes to this disease, the available chemistry all offers adequate cover. I think it'll likely be a commercial decision as to exactly what's used," he explains.

Standard pressure

AICC member Scott Martin is part of Apex Agronomy and works from North Essex throughout Suffolk and into Norfolk. He says given the mild weather, he's seeing the usual septoria pressure in winter wheat crops as well as yellow rust in susceptible varieties.

"For those going with a T0 due to the risk of yellow rust, usually in juvenile susceptible varieties which are showing pressure, we're looking at tebuconazole in most cases.

"But it's T1 where things get more interesting. Across my area we have two crops — those drilled before 10 October and then those which were planted at the end of December and into January. For the early crops, disease pressure appears quite high due to the weather and in this case, they'll likely require a higher level of inputs.

"Without pricing to refer to at the moment, it's difficult to predict a return on investment for the grower in those scenarios," he says.

For the later drilled crops, Scott says

septoria pressure will be lower and fungicide spend should reflect that, but focus should be on building biomass and canopy management. Higher than usual early nitrogen applications are to be expected, he comments.

But even if cereal crops aren't looking amazing right now, Scott believes protecting their potential will be worthwhile. "It's important to look after those early drilled cereals," he says.

Up in the North, AICC member Ben Boothman advises on farms from Doncaster to Scotch Corner, as well as to the East Coast. He says for growers with added grassweed pressure to contend with, they're still weighing up crop survival. "Being unable to get on with a pre- or post-em last year due to poor ground conditions has meant some crops are filthy with blackgrass.

"Equally we have septoria bubbling away in wheat, particularly in older, more susceptible varieties. As for barley, key diseases are evident such as rhynchosporium and the usual brown rust, mainly hosted by hybrid varieties, and crops are sat wet and yellow."

For his region, he likens fungicide programmes to car insurance — from basic third party, fire and theft through to fully comprehensive cover, all dependent on the status of the crop.

"Looking at T0s, in trials, varieties with good disease scores don't see a financial benefit of an early application, which will be a bonus this year on crops with low potential. Being realistic, farmers are unlikely to want to spend much on those crops this year," says Ben.

That said, growers who were able to drill early without severe grassweed pressure have good, thick crops, he adds. "They should be aiming for a more rounded programme to protect the yield potential and push them on."

Ben says he's hoping that the spring dries up a little so septoria pressure is minimal, but assessing the risk on a per-field basis should be the main goal. "Although balancing financial input on crop potential is important, I'd still advise using the best chemistry on those stronger crops if disease pressure is a concern but with the option to reduce the rates."

"This is because of the resistance issues with some of the older chemistry and the importance of getting the best out of those stronger crops. We can't lose sight of longer-term goals such as resistance management and best practice," he stresses. ▶

Eliciting a response

If considering elicitors, SRUC's Neil Havis says they should be used early at T0 timing and crucially, they shouldn't be used as an alternative to fungicides. With this in mind, the most commonly used elicitor in wheat programmes (Iodus) has a last application date of just before GS30.

"An important part of managing disease should be the choice of a variety with good resistance — this will help minimise the spread of disease. Elicitors work by inducing the natural defence mechanism of that variety to maximise the level of the host resistance present.

"It's then a case of tailoring the rest of the fungicide programme accordingly, based on subsequent disease pressure," he says.

According to Neil, trials at SRUC have shown early elicitor use can mean a reduction in the chemistry used later in the programme. "Of course, this is very important when considering the return on investment of inputs."

ADAS's Rebecca Joynt agrees — she's been looking at Iodus specifically, the laminarin-based elicitor from UPL. "2023 Trials in Herefordshire have investigated the relationship between applying Iodus at T0 and doses of T1 fungicides.

"In some trials, we've seen the same level of disease control and yield response when using Iodus followed by a lower rate fungicide at T1, compared with using a full rate product at T1 without T0 Iodus," she explains.

HERBICIDE PLANNING SAVES TIME IN BUSY SPRING SEASON

EFFECTIVE SPRING HERBICIDE STRATEGIES HINGE ON TIMING SPRAY WINDOWS WITH PERIODS OF ACTIVE WEED GROWTH



Georgina Young
Syngenta Grass Weed
Technical Manager

Following the wet conditions in the autumn which compromised most herbicide applications, many winter crops have large populations of both grass weeds and broad-leaved weeds. Planning herbicide sequences and the potential for tank mixes now, will make the best use of every opportunity that arises.

This season the flexibility that AXIAL® Pro gives for tank mixing with a range of broad-leaved herbicides, tackling a wider spectrum of weeds in one hit, will reduce application time and costs.

It is always recommended to use AXIAL® Pro at the full rate for the target weed when mixing herbicides such as ALS inhibitors, haloxyfen, fluroxypyr and clopyralid. These mixes should be avoided if growing conditions are sub-optimal at the time of application.

Where control has been poor in the autumn, there's a high possibility that there could be multiple spring herbicide applications, therefore, it's important to note that where AXIAL® Pro is used first e.g. to target overwintered grass weeds, SU/ALS inhibitor or hormone herbicides can be applied just seven days later. However, if the SU/ALS inhibitor or hormone herbicide is applied first in the sequence, growers should wait 21 days before applying AXIAL® Pro – by which time grass weeds will have grown progressively larger and may require higher rates for optimum control.

ACTIVE GROWTH

Active weed growth at the time of application is essential to achieve high levels of control from all herbicides, and to minimise the risk of temporary crop effects.

Trials have shown that it is better to wait until conditions are favourable for weed growth before a herbicide application, even if higher rates are then required to tackle larger weeds.



Target larger overwintered grass weeds as a priority: ryegrass, wild oats and black-grass

Syngenta research with NIAB has demonstrated that larger, overwintered grass weeds are more competitive and produce far higher seed returns compared to later-spring-germinating weeds. Targeting overwintered weeds should therefore be a key driver for herbicide timing and rate decisions. However, if applications are delayed due to unfavourable field conditions, it will mean that any later weeds that have emerged will also be controlled but rates must be adapted to target the largest weeds in the field.

TOP TIPS

- ◆ Plan for AXIAL® Pro herbicide tank mix opportunities
- ◆ Target larger overwintered weeds first
- ◆ Be aware of sequence limitations with some herbicides

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Even if cereal crops aren't looking amazing right now, Scott Martin believes protecting their potential will be worthwhile.

► In order to provide truly independent advice to his customers, Ben says he'll wait until price lists are made available

and then calculate an appropriate spend based on wheat prices and perceived crop potential. "The good crops certainly still require spraying but variety and disease pressure as always has a big impact on the chosen chemistry.

Considered perspective

"Equally it'd be quite naïve to think that poorer crops shouldn't be treated at all, that seems like an unwise perspective to me," he states.

His parting comment is to not underestimate the importance of timing. "Opportunities to travel will be infrequent if the weather pattern continues, so if you are reducing the rates, hitting exactly the right point in the crop's development will be crucial.

"Good timing means you have the capacity to adjust what's in the tank, but of course, it's all weather dependent," he concludes. ■



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Leaf layer emergence study

Work undertaken by NIAB has been investigating leaf layer emergence and variability across different winter wheat varieties. The two year study took place across four different sites and monitored the time of emergence of leaf three, leaf two and the flag leaf, plus percentage of disease progression.

NIAB's Dr Aoife O'Driscoll says this is important because leaf layer emergence dictates the time that leaves are exposed to infection, and together with disease risk, impacts spray timings and control efficacy.

"It's mainly the variety and thermal time



Work undertaken by NIAB suggests leaf layer emergence can last up to 10 days in certain varieties under cooler conditions, and is especially variable for leaf three.

which affects leaf layer emergence — late sowing and cooler temperatures will both have an impact," she explains.

For T1, the optimum time to spray is when two thirds of leaf three has emerged from the main tillers. Aoife says this year, given in-field variability, she anticipates that may be very difficult to gauge.

Such variability was also a key theme of the trial, whether conditions were dry in the spring or warm and wet; Aoife says this was surprising. "At the Cambridge trial, spring 2022 was dry followed by a deluge in May which drove septoria pressure. T1 was applied at 28 April and T2 at 17 May, with leaf layer emergence monitored from 12 April-17 May.

"Of the eight varieties trialled, there was large variation in the time taken for leaf layer emergence, especially for leaf two and flag leaf. If you take leaf two, to observe two thirds of that layer emerged across the varieties assessed, the dates ranged from 25 April-7 May despite the same drilling date."

In contrast, at the Sutton Scotney site in 2023, April was warm and wet and Aoife says she hoped to see a more regular pattern of emergence across the trial. However, this wasn't the case.

"At this site, taking the flag leaf and observing two thirds of emergence, some varieties reached this on 17 May while others didn't reach this point until 10 days later. Large variation once again."

The study also looked at the rate of leaf



Dr Aoife O'Driscoll says leaf layer emergence dictates the time that leaves are exposed to infection, and together with disease risk, impacts spray timings and control efficacy.

emergence within each variety, for example, how many individual flag leaves were 25%, 50%, 75% or 100% emerged at a certain date. This again showed much variability, which Aoife says makes it difficult to know when a crop is 'ready' to ensure optimum timings.

To conclude, she says the work suggests leaf layer emergence can last up to 10 days in certain varieties under cooler conditions, and is especially variable for leaf three. This year she advises reconsidering how spray timings are assessed.

"Many crops are sitting shorter than usual so it might not be wise to rely on the distance between internodes as an indicator of leaf layer emergence. Further inspection should be done to ensure accurate spray timings," concludes Aoife.

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