

Proactive T1 planning

Adapting disease management

Adaptability in a T1 programme can help to set growers up for unpredictability in weather and disease pressures. *CPM* explores fungicide options and approaches as we move into the spring.

By *Melanie Jenkins*

Boots on the ground indicate that a reasonable amount of winter wheat has been planted in the early part of 2024, despite the tricky autumn and testing conditions.

And while growers had a few favourable weeks during late January and early February to plant late sown autumn crops, the wetter conditions since have likely instigated a switching point where growers start to look at spring cropping.

The good news is that crops are looking better than many might have expected, due in part to the recent mild spell, explains Syngenta's Joe Bagshaw. "We're at the stage where growers are looking to apply nitrogen and trace elements, but we're still in a situation where it's essential to manage crops on a field-by-field basis."

Dr Tom McCabe, of the University College Dublin agrees, noting that the drier conditions in late January have helped crops to improve, bringing growers nicely into T0. "There'll be some very good crops going into T1 and confidence levels

have improved but keep in mind the context of your crop as there'll be variability. Factors such as soil type, which usually wouldn't make as much difference, have had a bigger impact this year and crops are far more varied than normal."

Yellow rust risk

And as far as inoculum level goes, yellow rust still appears to be the most high-risk disease. "The cold spell we had did knock it back but there remains high pressure to be aware of, especially in susceptible varieties. We've seen temperatures of 10-14°C and with moisture, yellow rust can cycle very quickly."

According to Tom, the disease is notable for its unpredictability. "Although it can appear predictable, the disease can be elusive some years and in others it can arrive in January and be present the rest of the season. Currently, the feeling is to be reactive, but it should be taken as a serious concern because you don't want to be chasing it. So the key is to get ahead of it using a planned programme for prevention."

If yellow rust has been present in the crop, hopefully a T0 has been applied and then a T1 will be the most important spray for maintaining control, says Joe. "Elatus Era (benzovindiflupyr+ prothioconazole) is effective in this slot due to its performance against yellow rust. Looking at the AHDB dose response curves, the straight Elatus Plus (benzovindiflupyr) is outperforming newer products, with a 25% dose doing a better job than 100% dose of other chemistry."

Tom also suggests including an SDHI and strobilurin. "You don't want to be applying azole after azole — a fungicide strategy should include as much diverse chemistry as is available."

If there's rust in crops at all, Joe

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stresses treating it as a priority. "There are obviously some varieties with seedling resistance, so you wouldn't expect to see rust early doors, but if a variety is seedling susceptible you might see the disease at T0 and T1. You can't rely on adult resistance at these stages because it can take up to GS39 for it to fully kick in — it's



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a gradual process and not a switch.

“Aim to control the disease before it becomes an issue as it can be too late if you wait until T2 — be proactive as it’s easier to protect against it than to try to cure it.”

In contrast to last year, septoria pressure is lower due to crop biomass being more modest, says Tom. “However, if there’s a strong growth period in the coming weeks this could change.”

Joe highlights that whatever the pressure, it’s still important to keep on top of septoria. “Looking at disease forecasting maps the risk was low as of mid-February but it’s pertinent to keep an



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Barley and beyond

Overall, winter barley crops appear reasonable, says Joe Bagshaw. “Generally, crops were planted ahead of the wet spell and look good, but any that were delayed until November or December might not look as smart.”

Dr Tom McCabe feels that winter barley crops are more uniform than wheat, meaning the key challenge will be protecting against rhynchosporium and net blotch. “In barley, ideally you’ll want a combination of an SDHI and an azole, with the optional addition of a strobilurin. Prothioconazole is still a cost-effective option at T1 in barley and SDHIs are well proven in terms of adding to the level of protection against the key diseases.”

In terms of management, Joe advises keeping an eye on varieties with their disease resistance scores in mind. “If you’re growing hybrids, apply early nitrogen to get the crops away and be aware that certain hybrid varieties are more at risk from brown rust in particular.

“Elatus Era at T1 will cover all of your bases against rust,” he says. “And if there’s a risk of ramularia, include folpet. In high-risk situations, use folpet at T2 as standard — the paintbrush or GS45 is a key time to get good active reduction in ramularia from your fungicide programme.”

In general, disease pressure in winter barley appears low so far without much sign of mildew, notes Joe. “However, if conditions



If there’s a risk of ramularia, the advice is to include folpet at T2 as a standard.

become mild and wet this will drive the spread of disease in the crop.”

Tom advises growers to keep an eye on temperature spikes in March and April as these can result in brown rust outbreaks in some areas. “You can have fungicide plans in place but you’ll have to be reactive to changing weather conditions to cover yourself against brown rust. We’ve certainly seen the disease and weather dynamic become more complex over the past three-to-five years, creating a lot of unpredictability, so there’s much to be gained from being able to change your plans quickly.”

To deal with this unpredictability, he suggests growers work with broad-spectrum products and to not rely on single molecules or options that don’t have much flexibility. “It might be that some of the latter products include good chemistry, but the trick is to make sure your choices cover you for changing situations.”

According to Joe, using Elatus Era will provide all-round cover, but where there’s signs of early net blotch, Kayak (cyprodinil) is a useful addition to the programme at T0 or T1.

“But generally, if you’ve included prothioconazole then this is the main triazole you’ll want to use to cover your bases, just make sure the timing is right for early stem extension to help protect the lower canopy.”

In conventional winter barleys there’s a greater yield benefit from T1 fungicide applications than T2, says Joe. “This is why it’s important to get protective applications on at T1 as it’ll put plants in a better situation to build yield.”

However, it’s still important to apply a T2 when it comes around, he stresses. “Although you can use Elatus Era in either slot, in situations where brown rust is more of an issue it’s probably best suited to being applied at T1.”

Joe feels that spring barleys could be a challenge this year, depending on when they are



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planted. “There’ll probably be more of a focus on T2 applications for spring barley, but some might choose the cheaper option of a T1 based on how well crops go in. It’ll be down to adapting rates and products to disease pressures and how well crops look.”

Exploring the situation with other cereals, Joe notes that there’s quite a bit of rye and triticale which has been drilled. “Generally, there’s reasonably high risk of rust in most of the varieties we grow, meaning Elatus Era is a good fit at T1. Once you’ve knocked the disease out of these crops, it normally doesn’t come back as hard as it does in wheat.”

Looking at oats, he feels Elatus Era is also well placed at T1 to control both powdery mildew and crown rust. “It has good rate adaptability, so if you’re growing a spring crop you can reduce rates accordingly, or, if you’re in a high-pressured powdery mildew situation you can increase rates.

“If you’re worried about the product keeping oats too green and delaying harvest, you can reduce rates of Elatus Era and follow with Amistar or a tebuconazole product,” says Joe.

“Including an SDHI — both in oat and barley programmes — will also help reduce lodging and therefore keep crops standing which is especially important this year as there’s a possibility of poor rooting.”

Adapting disease management



Applying a T1 spray will help to stop the spread of disease above leaf three, protecting 75% of the yield which is produced by the top three leaves and the ear.

► eye on this as there's potential for the weather between March and May to push up pressure, driven by the intensity and level of rainfall."

The key window, based on work done with ADAS, is between 16 April and 15 May, he explains. "This period is where septoria inoculum spread, leading to later disease development, which is why at T1 it's important to apply a persistent product protectively at leaf three. This will provide protection between T1 and T2 during that key window known as the firebreak.

"If you apply at T1 it'll help to stop the spread of disease above leaf three which then protects 75% of the yield which is produced by the top three leaves and the ear — it's about keeping the plant as clean and green as possible."

Joe also advocates including a multi-site in the T1 slot. "Folpet is an important part of the programme in terms of efficacy but it's also helping to protect the chemistry. Ideally, we'd recommend using 1-litre of folpet with Elatus Era at T1 to give you the best coverage between T1 and T2.



Disease forecasting maps indicate a low risk of septoria as of mid-February, but there's potential for the weather between March and May to push up pressure.

"Looking at the biokinetics of Solatenol (benzovindiflupyr), you can achieve 35-40 days of persistent protectant control which covers you between the key timings when applying robust rates of 0.8-1.0 l/ha. This can depend on the variety and a lot of growers have opted for those with strong septoria resistance. But those growing quality milling wheats have a lot less choice and rust can be a bigger risk for these too, so adapt your programme accordingly."

Eyespot pressure

Current data from disease risk maps indicates high levels of eyespot pressure, so including prothioconazole at T1 is important, says Joe. "Ideally, you'll want 100g or more of prothioconazole to achieve any useful reduction in eyespot."

The other disease that can be influenced with T1 sprays is take-all, he says. "Looking at inoculum maps there appears to be higher than normal pressure from this disease. So if you have second wheats or know you're in a high risk

situation, adding Amistar (azoxystrobin) at T0 or T1, or a split between the two timings, can reduce the risk by suppressing the pathogen and will help crops to scavenge more nutrients from the soil. An early nitrogen application could also be helpful against take-all risk."

Tom is an advocate of contact fungicides as a partner to all key chemistry at T1. "As you go from higher septoria pressure you want contact and therefore folpet plays an important role, but where there's high yellow rust pressure the extra spend should be focused on controlling this."

Joe highlights that the key with T1 is timing. "I frequently see people basing T1 on date, but it should be based on leaf emergence. Even the nodal growth stage doesn't really matter at T1, you really want to be hitting leaf three at least 75% emerged, to provide protection for the whole leaf. This will put a firebreak in to stop disease spreading up the plant." ■



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Managing cereal diseases from one season to the next is rarely the same.

Disease pressures and grain prices fluctuate. And drilling dates, cropping areas and crop potential are at the mercy of the weather.

Indeed, this year sees a wide spectrum of winter wheat crops — from high potential early-drilled fields to lower potential late-drilled ones, and crops in the middle. Not to mention a potentially inflated area of spring barley.

All of which means adapting disease management on a field-by-field basis will be key. There isn't a 'one size fits all'.

Against this background, CPM has joined forces with Syngenta to help growers

negotiate the different scenarios through this series of articles.

At Syngenta our purpose is to bring plant potential to life.

With a range of proven fungicides — from Elatus Era with its outstanding rust capability and long-lasting protection against *Septoria tritici* in wheat and barley, to the reassuring multi-site activity of folpet, and enduring treatments of Amistar and Kayak — we offer a flexible choice of cost-effective solutions.