

PRODUCT INFORMATION GUIDE

CEREAL FUNGICIDES RANGE – SPRING 2021

Clayton Plant Protection offers a wide range of leading fungicides for cereal crops this Spring. Achieving good crop growth to maximise yields relies on effective, early control of damaging fungal diseases. Careful planning in terms of product choice for contact and protective fungicides will help growers achieve the best results at key application timings. Our products can help put in place **the right building blocks for successful disease control.**

AZOFIN® PLUS

SC formulation containing 250g azoystrobin

F

PROTEFIN®

EC formulation containing
125g prothioconazole + 125g tebuconazole

F

TRACIAFIN® PLUS

EC formulation containing 250g prothioconazole

F

CLAYTON TEBUCON® 250EW

EW formulation containing 250g tebuconazole

F

METFIN 90™

EC formulation containing 90g metconazole

F

CLAYTON MIDAS®

EW formulation containing 50g cyflufenamid

F



PARTNERING WITH INNOVATIVE COMPANIES, MORE CHOICE FOR GROWERS

Finchimica SpA offer a wide range of leading crop protection fungicides, all formulated and manufactured to exacting standards in Europe.

As part of a UK distribution partnership agreement, Clayton will be marketing Finchimica's range of cereal fungicide products in the UK including the leading brands Azofin Plus®, Protefin®, Traciafin Plus® and Metfin 90™, which will all add strength to our existing UK range.

View more information at www.claytonpp.com

WHAT ARE THE BENEFITS OF EARLY DISEASE CONTROL?

Early disease onset in crops varies each season. If cereal crops are not protected at key timings and at the early stages of disease development, it can severely impact crop yield potential.

Many fungicide active ingredients rely on protectant activity and therefore must be applied before disease becomes established.

With an expanding range of proven cost effective fungicide formulations, Clayton can provide valuable choice, flexibility and an ideal platform for tackling cereal diseases this spring with focus on core building blocks in the disease control programme.



A QUICK GUIDE
PRODUCT PROFILES. DISEASE STRENGTHS.

CLAYTON MIDAS®

FUNGICIDE

Protectant fungicide with useful curative activity.

Contains 50 g/l cyflufenamid

Crops: wheat, barley, durum wheat, oats, winter rye and triticale.

Use rate: apply at 0.5 l/ha for a maximum of 2 treatments per crop up to and including GS60.

Target diseases: Powdery mildew (all crops). With fenpropimorph-based products revoked in 2020, cyflufenamid provides a potential mildewicide replacement product for growers on a range of cereal crops.

Available in a 50 g/l EW formulation, with good tank mix compatibility, research has shown that cyflufenamid provides an excellent fungicide building block at the early T0 timing and protecting crops during early spring (when crop growth is rapid) is vital to help lower disease pressure at later timings around T1 for mildew and other diseases.

Later applications at T2 will help to protect yield in cereal crops as they approach harvest.

CLAYTON TEBUCON®

250EW

FUNGICIDE

Systemic triazole fungicide.

Contains 250 g/l tebuconazole

Crops: wheat (excluding durum), barley, oats and winter rye.

Use rate: apply at 1.0 l/ha for a maximum of 2 treatments per crop up to and including GS71. First treatment must be applied after GS30 and before GS39. A second treatment cannot be then applied until after GS40.

Target diseases:

Wheat - Control of Yellow rust, Brown rust and Ear disease complex (Fusarium, Alternaria and Cladosporium). Moderate control of Septoria and Powdery mildew.

Barley - Control of Yellow rust, Brown rust. Moderate control of Powdery mildew, Rhynchosporium. Reduction of Net blotch.

View more information at www.claytonpp.com

AZOFIN® PLUS

FUNGICIDE

Effective, useful systemic and protectant strobilurin fungicide.

Contains 250g/l azoxystrobin

Crops: wheat, barley, oats, rye and triticale.

Use rate: apply at 1.0 l/ha for a maximum of 2 treatments per crop.

Target diseases:

Wheat - Brown rust, Ear diseases (Cladosporium, Alternaria), Glume blotch, Yellow rust. Can reduce severity of Take-all.

Barley - Brown rust, Rhynchosporium leaf blotch – reduction, Net blotch. Can reduce severity of Take-all.

TRACIAFIN® PLUS

FUNGICIDE

Powerful systemic, protectant and curative triazole fungicide.

Contains 250g/l prothioconazole

Crops: wheat, barley, durum wheat, oats, triticale and winter rye.

Use rate: apply at 0.8 l/ha for a maximum of 3 treatments per crop before GS71 (wheat/durum wheat/rye/triticale) or apply at 0.8 l/ha for a maximum of 2 treatments per crop up to and including GS61 (barley/oats).

Target diseases:

Wheat - Control of Powdery mildew, Yellow rust. Moderate control of Septoria, Brown rust, Fusarium ear blight, Glume blotch and Tan spot. Reduction of Eyespot and Mycotoxin deoxynivalenol (DON).

Barley - Control of Powdery mildew, Yellow rust, Brown rust, Rhynchosporium leaf blotch and Net blotch. Moderate control of Fusarium ear blight. Reduction of Eyespot.

PROTEFIN®

FUNGICIDE

Broad-spectrum triazole fungicide mixture to control a wide range of cereal diseases.

Contains 125g/l prothioconazole + 125g/l tebuconazole

Crops: wheat, barley, oats and winter rye.

Use rate: apply at 1.0 l/ha for a maximum of 2 treatments per crop up to and including GS69 (wheat) or GS61 (barley).

Target diseases:

Wheat - Control of Yellow rust, Brown rust and Tan spot. Moderate control of Septoria, Powdery mildew and Glume blotch. Reduction of Eyespot and Fusarium ear blight.

Barley - Control of Powdery mildew, Yellow rust, Brown rust, Rhynchosporium leaf blotch and Net blotch. Reduction of Eyespot and Fusarium ear blight.

METFIN 90™

FUNGICIDE

Robust, systemic triazole fungicide.

Contains 90 g/l metconazole

Crops: wheat, barley, durum wheat, oats, rye and triticale.

Use rate: apply at 1.0 l/ha for a maximum of 2 treatments per crop up to and including GS71.

Target diseases:

Wheat - Control of Septoria, Powdery mildew, Yellow rust, Brown rust and Ear blight (Fusarium).

Barley - Control of Powdery mildew, Yellow rust and Brown rust. Reduction of Rhynchosporium Net blotch.

View more information at www.claytonpp.com



TOP PERFORMANCE PRODUCTS & SERVICE

Our broad range and comprehensive support ensure we provide a premium service to growers and agronomists. All our generic products have been developed, authorised and manufactured in the UK and Europe to guarantee the highest quality formulation and performance at cost-effective pricing.

CEREAL FUNGICIDE PROGRAMMES

Fungicide programmes are an essential component of disease management strategies. Generally, the T1 and T2 fungicide timings give a good yield response in winter wheat and winter barley.

The earlier T0 and later T3 timings can give smaller yield responses but can be important for protecting early disease onset or for protecting grain quality later, depending on the season and disease pressure.

BEST PRACTICE MANAGING FUNGICIDE RESISTANCE

- ✔ Exploit all practical, non-chemical control options
- ✔ Use varieties with resistance to the main diseases of concern
- ✔ Minimise the number of applications – only use fungicides when the risk or presence of disease warrants treatment, and treat before the infection becomes well established
- ✔ Use the minimum dose required to effectively control the target disease
- ✔ Include a multisite fungicide, where available, in both the early and late-season sprays
- ✔ Make use of effective fungicides with different modes of action in alternate sprays or mixtures
- ✔ Avoid repeat applications of the same mode of action



FUNGICIDE TIMING PROGRAMME
WINTER WHEAT

F

T0

2-4 weeks earlier than T1. Consider alternatives to azoles such as multi-sites or strobilurins e.g. **Azofin Plus**, or add a multi-site (**Folpet**) to protect the azole.

T0 fungicides offer the best economic return when mildew, yellow rust or brown rust risk is high, particularly on susceptible varieties where these diseases are active. A spray targeted at foliar diseases at T0 can also help control eyespot. A spray for septoria tritici at this timing is rarely associated with yield benefits, even in high disease pressure situations. However, it can provide protectant activity and insure against a delayed T1.

For mildew, use a mildewicide e.g. **Clayton Midas**. If rusts are the target, use a strobilurin e.g. **Azofin Plus** or azole e.g. **Clayton Tebucon 250EW** For septoria tritici, where the spray is an insurance against a weather-delayed T1, use an azole and/or multisite. Avoid using an SDHI at this timing to reduce the risk of resistance.

T1

Fully emerged leaf 3 (GS31–33). Mix azoles as the base building blocks for disease control e.g. **Protefin**, **Traciafin Plus**, **Tebucon 250EW** with multi-sites.

T1 sprays can help protect the fully emerged leaf 3 mainly from *Septoria tritici* and provide additional protection from other foliar diseases (including rusts and mildew) on leaves 2 and 4. It is also a key timing for eyespot control. Optimal timing is as soon as leaf 3 is fully emerged. Usually, this coincides with GS32, but it can vary between crops. In very early sown crops, leaf 3 can emerge at GS33. In late-sown crops, it can emerge at GS31. Prompt timing is important on *Septoria* susceptible varieties.

T1 sprays are often based on an azole plus multisite mixture, often with the addition of an SDHI. If yellow rust is the target, the addition of a strobilurin such as **Azofin Plus** should be considered. Where the eyespot risk assessment shows a high risk, include a product with good efficacy against this disease (e.g. **Protefin** or **Traciafin Plus**). If mildew levels are high and on susceptible varieties, consider a specific mildewicide such as **Clayton Midas**. To manage resistance risk always follow FRAG guidelines

T2

Flag leaf fully emerged (GS39). Mix azoles e.g. **Metfin 90**, **Traciafin Plus**, **Protefin** with multi-sites & SDHIs for maximum efficacy and resistance management.

T2 is often the most important spray timing in wheat. It controls disease on the top two leaves, which contribute about 65% to yield. Yield responses to this spray timing are consistently profitable. The main target disease is *Septoria tritici*, although rusts are also important targets. Adjust dose to reflect risk.

Apply this spray as soon as most flag leaves on the main tillers have fully emerged (GS39). Use an azole / SDHI / multi-site mixture to ensure good control of *Septoria* and rusts. An appropriate strobilurin such as **Azofin Plus** can give additional rust protection. In addition to maximising efficacy, the use of mixtures is also essential for resistance management. Inclusion of a multisite can help to protect azoles and SDHIs from resistance as well as contributing to disease control.

T3

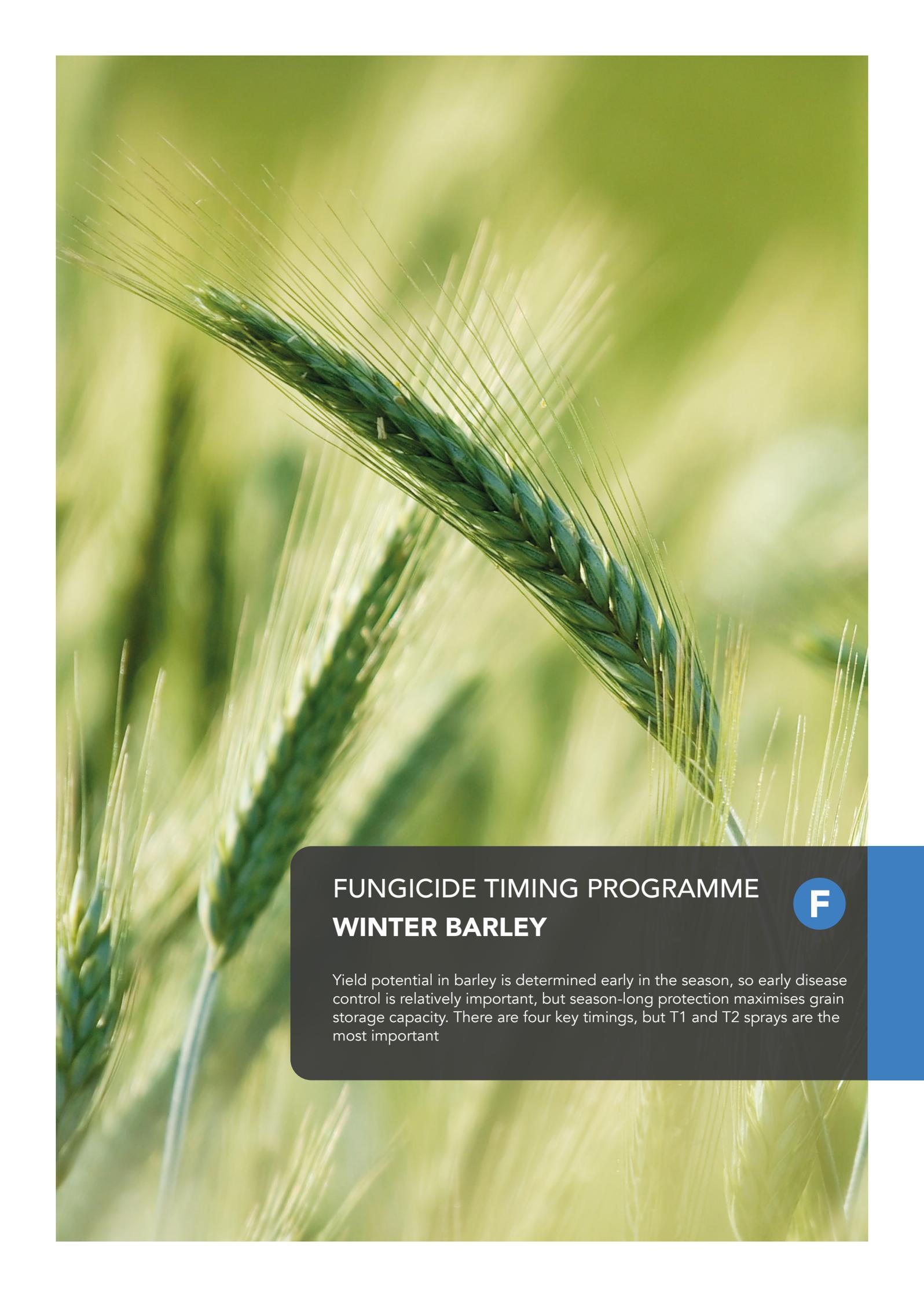
GS59 or GS63–65. Add a multi-site e.g. **Folpet** to azoles for added septoria control and resistance management.

At GS59, use a T3 spray to top up foliar disease control on the top two leaves or, at GS63–65, to control *Fusarium/Microdochium* ear blight. Consider the relative importance of foliar disease and ear blight to decide which timing to use. If no T3 spray is planned, it is important not to delay the T2 spray. Delaying the T2 spray to allow part of the ear to emerge will lead to poorer foliar disease control on the critical flag leaf and leaf 2. Sprays applied around GS59 can help maintain canopy size and prolong its duration by protecting leaf and ear green area against foliar diseases such as Brown rust but this timing is not effective for controlling ear blight.

Fusarium and *Microdochium* species cause ear blight. The optimum time to spray is at early-to-mid-flowering (GS63–65). Sprays are not effective once flowering is complete. As well as reducing yield loss, the control of ear blight at GS63–65 also helps to reduce mycotoxins produced by *Fusarium* species. Where *Fusarium* mycotoxins are not a major concern (e.g. resistant feed wheats), this spray is not usually required.

For ear disease control, use azoles or azole mixtures such as prothioconazole or metconazole with specific activity against ear disease at a minimum of a three-quarter dose. Most azoles also have brown rust activity although their activity varies. On *Septoria* susceptible varieties, ensure the azole is also active against *Septoria*. Add a multisite for added *Septoria* control and resistance management (within label recommendations – folpet can be used up to GS59). Consider adding a strobilurin, where grain filling is likely to be prolonged or where Brown rust risk is high.

Resistance management should be considered throughout the spray programme.



FUNGICIDE TIMING PROGRAMME WINTER BARLEY

F

Yield potential in barley is determined early in the season, so early disease control is relatively important, but season-long protection maximises grain storage capacity. There are four key timings, but T1 and T2 sprays are the most important

Autumn & Winter

Mildew is the main disease at this stage, although brown rust, rhynchosporium and net blotch may occasionally cause concern. Generally, applications at this stage have little yield benefit and can encourage fungicide resistance to develop. They are only necessary if extensive disease affects overwintering capability in poorly tillered crops. Use a specific mildewicide where mildew is the target; otherwise, use an azole or strobilurin. To minimise selection for resistance, use different modes of action to those planned for later in the season.

T0

GS23–29 late tillering, early spring e.g Clayton Midas, Azofin Pus, Tebucon 250EW

Yield responses to fungicides are highly variable at this timing. Only spray if overwintering disease levels are high in susceptible varieties.

Mildew, brown rust, rhynchosporium and net blotch are the main diseases to consider at this timing. Use a specific mildewicide such as Clayton Midas for mildew control; otherwise, use an azole or strobilurin. To minimise selection for resistance, use different modes of action to those planned for later in the season.

T1

GS30–32, stem extension e.g Traciafin Plus, Protefin, Folpet

This is the main timing in winter barley, with a 60% response to fungicides achievable. Treatment helps maximise survival of formed tillers and spikelets, increasing final grain numbers.

Rhynchosporium, net blotch, mildew, eyespot and brown rust are the main diseases to consider at T1. An azole in mixture with a strobilurin or SDHI will control most target diseases. If brown rust is a particular threat, use a strobilurin. Use mixtures with different modes of action with similar efficacy against the diseases present, where possible. Add a multisite to protect the other modes of action. Folpet is the only available multisite for barley.

T2

GS39–59, flag leaf & ear emergence e.g Metfin 90, Protefin, Folpet

About 40% of the fungicide yield response can come from this timing. Greater yield responses often occur in late harvest years. Brown rust and net blotch are targets, along with rhynchosporium in wetter regions and in wet summers. Applications around flag leaf emergence can reduce spikelet mortality during booting and extend canopy duration. If there are high levels of late-developing net blotch and brown rust, use later applications, but use earlier applications when disease pressure (especially Rhynchosporium) is generally high.

Use an azole in a mixture with a strobilurin or SDHI to control most target diseases. If brown rust is a particular threat, use a strobilurin. The latest application time for many fungicides in malting crops is the start of ear emergence. Check product labels to determine whether they are suitable for use when the T2 is delayed.

Alternate modes of action, compared with the T1 spray, where possible. Use a different azole to that used at T1 and add a multisite to protect the other modes of action. Folpet is the only available multisite for barley.

T3

After GS59

Avoid sprays after GS59, as they do not normally give an economic yield benefit and few products are approved. Where fusarium head blight is a concern, use non-chemical control measures. In very high-risk situations, consider a spray during early flowering (GS63–65), subject to the latest timings on the label.

ADDRESS

Clayton Plant Protection,
Bracetown Business Park,
Clonee, Dublin

tel. **00353-1-8210127**

email. **info@claytonpp.com**

website. **www.claytonpp.com**

FIND OUT MORE

Full product labels and further information
can be found at **www.claytonpp.com**



Information in this guide does not constitute a recommendation, it is for guidance only. Up-to-date information can be found on our website claytonpp.com. Brand names used are trademarks of Clayton Plant Protection and of other manufacturers, in which proprietary rights may exist. Use fungicides safely. Always read the label and product information before use.

Reference Source: AHDB website (fungicide programme literature)