RECOMMENDEDLISTS

AHDB Recommended Lists (RL) for cereals and oilseeds: Cereal Trials Fungicide Protocol

This protocol was believed to comply with relevant agrochemical, environmental and other regulations at the time of writing but it is the responsibility of the contractor to ensure that it continues to comply. In the event of non-compliance, the protocol should not be followed but the Field Trials Manager should be notified at once of how the protocol requirements would breach regulations.

Any deviation from this protocol other than under the circumstances described above may result in a breach of contract and should be agreed in advance.

Appendix 1 - Fungicide Protocol

Introduction

Recommendations by Paul Gosling, BASIS registration number R\E\8107\IFM.

RL Trials Co-ordinator:	Mark Bollebakker	01480 482989
NL Co-ordinator:	Jeremy Widdowson	01353 653846

This programme is for use on AHDB Recommended List and National List cereal trials in 2022/23:

- For spring and summer applications to trials for harvest 2022
- For autumn/winter applications to trials to be harvested in 2023

It is an experimental protocol and is designed to meet the protocol aim of keeping disease levels in treated plots below 5% infection in all varieties and in all trials. It is not intended to follow commercial practice.
Please note that most treatments are compulsory, and the rates and timings specified should be adhered to as closely as possible. The protocol is robust and, if applied correctly, should be effective. If, however, disease levels rise above 5% (e.g., if weather conditions do not allow optimal application), please contact Mark Bollebakker (RL) or Jeremy Widdowson (NL) to discuss an appropriate course of action.

Fungicides should be applied at the stated dose rates unless agreed otherwise with the RL Trials Co-ordinator or NL Co-ordinator. Changes to dose rates will only be sanctioned in exceptional circumstances, such as drought-stressed trials under low disease pressure.
Please contact the RL Trials Co-ordinator or NL Co-ordinator if you have any difficulty in sourcing a particular product.

In some cases, two or more products may be available from a company with the same active substances and formulation; if you wish to use such a product and it is not listed in this protocol, contact the RL Trials Co-ordinator or NL Co-ordinator. Generic products should be avoided as they may contain the same active substances but in a different formulation.

Important: Every care has been taken to ensure that all mixtures, rates, and timings are approved, meeting COSSH regulations and manufacturers and statutory guidelines. However, it is the responsibility of the Trial Manager to ensure that they meet all current regulations at the time of application. It is recommended to seek advice from a qualified BASIS advisor for suitability to local conditions and regulatory compliance. The RL Trials Co-ordinator or NL Co-ordinator should be notified of any conflict between the protocol and current regulations.

In accordance with FRAC guidelines, only two applications of strobilurin fungicides and two SDHI fungicides are to be applied to any crop.

Products, active substances and manufacturers

Product	Active substances	Amount of active substance	Manufacturer
Comet 200	Pyraclostrobin	200 g/l	BASF
Cyflamid	Cyflufenamid	50 g/l	Certis
Elatus ERA	Benzovindiflupyr Prothioconazole	75 g/l 150 g/l	Syngenta
Entargo	Boscalid	500 g/l	BASF
Fandango	Fluoxastrobin Prothioconazole	100 g/l	Bayer CropScience
Imtrex	Fluxapyroxad	62.5 g/l	BASF
Arizona	Folpet	500g/l	Adama
Proline 275	Prothioconazole	275 g/l	Bayer
Prosaro	Prothioconazole Tebuconazole	125 g/l 125 g/l	Bayer
Revystar XE	Mefentrifluconazole Fluxapyroxad	47.5/100 g/l	BASF
Siltra Xpro	Bixafen Prothioconazole	60/200g/l	Bayer
Talius/Justice	Proquinazid	200 g/l	DuPont
Tebuconazole	Tebuconazole	250 g/l	Belchim/Rotam
Univoq	Fenpicoxamid Prothioconazole	50 g/l 100 g/l	Corteva

When you are applying optional treatments make sure you adhere to product labels regarding maximum total dose and maximum number of treatments.

Winter Wheat

Treatment Timing	Growth Stage (GS) - target timing or disease	Product / active ingredient	Rate
Contact Trials Manager if significant yellow rust pre T0.			
T0	**GS30 (with no later than when 50% of varieties at GS30)**		
		Cyflamid +	0.25 – 0.35 l/ha
		Metconazole 250+	0.5 l/ha
		Comet 200	0.4 – 0.6 l/ha

T1	**GS32 (with most varieties at GS32)**		
For eye spot situation		Revystar XE +	1.0 –1.25 l/ha
		Entargo +	0.5 l/ha
		Arizona +	1.0 l/ha
		Talius/Justice	0.15 l/ha
For heavy rust situation		Revystar XE +	1.0 – 1.25 l/ha
		Elatus Era +	0.6 l/ha
		Arizona+	1.0 l/ha
		Talius/Justice	0.15 l/ha

T1.5	**GS33 (targeting leaf 2 emerging)**		
In a rust situation **Note: 14-day interval between T1.5 Tebuconazole application and T2 application**		Tebuconazole 250	0.75 l/ha
Or in a septoria situation		Prothioconazole 275	0.6 l/ha
Note: Arizona can only be used at one timing either here or at T3		+ Arizona	1.0 l/ha

T2	**GS39–45 and no later than 4 weeks after T1 application**		
		Univoq	1.25 – 1.5 l/ha

Note: <u>Strongly</u> recommended for rust in East and Southern regions.	Tebuconazole +	0.75 – 1.0 l/ha
	Arizona	1.0 l/ha
Optional - If mildew established	*Cyflamid*	*0.25 – 0.35 l/ha*

T3	**GS55–61 Timing for Fusarium control (very early anthesis preferred).**	
	Prosaro +	0.8 – 1.0 l/ha
	Comet 200 +	0.4 – 0.6 l/ha
Optional - if not used at T1.5 can only be used up to GS59.	*Arizona*	*1.0 l/ha*

Post T3
For extreme septoria or brown rust situations please contact the relevant trials co-ordinator

<u>Note</u>

No more than TWO applications of a SDHI product should be applied to any cereal crop

Depending whether "Knock down" or protectant activity is required, applications of Cyflamid (eradicant) and Talius/Justice (protectant) can be swapped at T0 or T1. DO NOT APPLY CONSECUTIVE APPLICATIONS OF PRODUCTS CONTAINING CYFLAMID

For Cyflamid, the maximum number of treatments is TWO PER CROP on ALL recommended cereals, to be applied ONLY IN SPRING

Spring Wheat – Spring Sown

Treatment Timing	Growth Stage (GS) - target timing or disease	Product / active ingredient	Rate
Pre T1			
For disease infections before GS29 consult the relevant trials co-ordinator.			

T1	**GS29–31**		
		Revystar XE +	1.0 – 1.25 l/ha
		Comet 200 +	0.4 – 0.6 l/ha
		Arizona +	1.0 l/ha
		Talius/Justice	0.15 l/ha

T2	**GS37 and no later than 3 weeks after T1 application**	
	Revystar XE +	1.0 –1.25 l/ha
	Arizona	1.0 l/ha
Optional if mildew established	*Cyflamid*	*0.25 – 0.5 l/ha*

T3	**GS51–61**	
	Prosaro +	0.8 l/ha
	Comet 200 +	0.4 – 0.6 l/ha
If including Arizona must not exceed GS59	Arizona	1.0 l/ha

Winter Barley

Treatment Timing	Growth Stage (GS) - target timing or disease	Product / active ingredient	Rate
Before T0			
Optional - If net blotch or mildew present in Autumn or early Spring please contact the trials co-ordinator			

T0	**GS26–30 at start of Spring growth**	
	Proline 275 +	0.3 – 0.5 l/ha
	Comet 200	0.35 – 0.5 l/ha

T1	**GS30–31 No later than 4 weeks after T0 application**	
Note: Maximum application of Siltra Xpro is 1.0 l/ha.	Siltra Xpro +	0.5 – 0.75 l/ha
	Arizona +	1.5 l/ha
	Cyflamid	0.25 – 0.35 l/ha

T2	**GS39–45 (earliest varieties should not exceed GS45)**	
	Revystar XE +	1.0 – 1.25 l/ha
	Arizona	1.5 l/ha
Optional: If net blotch or rhynchosporium is developing. **Not to be applied after the start of flowering.**	*Proline 275*	*0.3 – 0.5 l/ha*

T3	**GS59–61**	
Optional ***(to be considered compulsory if brown rust is a risk):*** **Must not be applied after the start of flowering** **Comet 200 must be applied before GS59**	*Fandango* *Or* *Proline 275 +* *Comet 200*	*0.75 l/ha* *0.3 – 0.5l/ha* *0.35 – 0.5l/ha*

Spring Barley

Treatment Timing	Growth Stage (GS) - target timing or disease	Product / active ingredient	Rate
T0	**GS13–15**		
Optional: If disease is present		*Proline 275*	*0.2 – 0.4 l/ha*

T1	**GS25–31 Applications at the early end of this range may be necessary if rhynchosporium or mildew are developing.**		
		Siltra Xpro +	0.4 – 0.6 l/ha
		Arizona	1.0 l/ha
Optional: if mildew is present		*Cyflamid*	*0.25 – 0.35 l/ha*

T2	**GS45–59 (earliest varieties should not exceed GS59) no later than 3 weeks after T1 application. If any varieties have passed GS59 contact relevant trials co-ordinator.**		
Note: If trial is grown for malting quality Revystar XE **must not** be applied after GS45		Revystar XE +	0.75 –1.0 l/ha
		Arizona	1.5 l/ha

T3	**GS59–69**		
Optional: If net blotch or rhynchosporium or fusarium developing		*Proline 275*	*0.3 – 0.5 l/ha*

Winter Oats

Treatment Timing	Growth Stage (GS) - target timing or disease	Product / active ingredient	Rate
T0	**GS Mid to late tillering**		
		Cyflamid +	0.25 – 0.35 l/ha
		Prothioconazole	0.35 l/ha

T1	**GS31**	
Note: Maximum applications Siltra Xpro is 1.0 l/ha.	Siltra Xpro +	0.4 – 0.6 l/ha
	Talius/Justice	0.15 l/ha
Optional - if crown rust is a problem. ***Note:*** *Only* ***TWO*** *applications of Comet 200 permitted per crop. Apply at* ***T1 OR T2*** *which ever more appropriate to season and conditions.*	*Comet 200*	*0.5 l/ha*

T2	**GS39–45**	
Note: Maximum applications Siltra Xpro is 1.0 l/ha.	Siltra Xpro +	0.4 – 0.6 l/ha
	Cyflamid	0.25 – 0.35 l/ha
Optional - If crown rust is a problem, ***SEE NOTE ABOVE***	*Comet 200*	*0.5 l/ha*

T3	**GS45–59**	
Optional: If crown rust pressure has remained high before GS59–61. ***SEE NOTE ABOVE, NOT IF NOT APPLIED AT T1 & T2, MAX 2 APPLICATIONS PER CROP***	*Comet 200* +	*0.5 l/ha*
	Tebuconazole /Toledo	0.5 l/ha

Spring Oats

Treatment Timing	Growth Stage (GS) - target timing or disease	Product / active ingredient	Rate
T0	**GS13–15**		
Optional: If mildew present.		*Cyflamid +*	*0.25 – 0.35 l/ha*
		Prothioconazole	0.35 l/ha

T1	**GS Mid to late tillering**	
Note: Maximum applications Siltra Xpro is 1.0 l/ha.	Siltra Xpro +	0.4 – 0.6 l/ha
	Talius/Justice	0.2 l/ha
Optional: If crown rust is a problem.	*Comet 200*	*0.5 l/ha*

T2	**GS39–45**	
	Siltra Xpro +	0.4 – 0.6 l/ha
	Cyflamid	0.25 – 0.35 l/ha
Optional: If crown rust pressure is a problem.	*Comet 200 +*	*0.5 l/ha*
	Tebuconazole	*0.5 l/ha*

Winter Rye and Triticale

Treatment Timing	Growth Stage (GS) - target timing or disease	Product / active ingredient	Rate
T0	**GS30**		
		Tebuconazole +	0.75 – 1.0 l/ha
Optional: If mildew present, TRIALS OPERATORS' DISCRETION WHETHER TO USE EITHER AT T0 OR T1.		*Cyflamid*	*0.25 – 0.35 l/ha*

T1	**GS31–32**		
Increase rate for high rust.		Elatus Era +	1.0 l/ha
Optional: If mildew present, TRIALS OPERATORS' DISCRETION WETHER TO USE EITHER AT T0 OR T1.		*Cyflamid*	*0.25 – 0.35 l/ha*

T2	**GS39–45**		
		Revystar XE	0.5-1.0 /l/ha

T3	**GS59–61**		
Optional: Rye only if rust remain a problem before GS61.		*Prosaro*	*0.8 l/ha*

Spring Rye and Triticale

Treatment Timing	Growth Stage (GS) - target timing or disease	Product / active ingredient	Rate
T1	**GS31–32**		
		Elatus Era +	1.0 l/ha
		Talius/Justice	0.15 l/ha

T2	**GS32–45**		
		Revystar XE	0.5 – 0.75 /l/ha