

RECOMMENDED LISTS

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.

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AHDB Cereals & Oilseeds is a part of the Agriculture and Horticulture Development Board (AHDB).

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 2023/24:

- For spring and summer applications to trials for harvest 2024

It is an experimental protocol and is designed to meet the protocol aim of keeping disease levels in treated plots below 10% 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 10% (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
Ascra Xpro	Bixafen Fluopyram Prothioconazole	65g/l 65g/l 130g/l	Bayer Crop Science
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
Arizona	Folpet	500 g/l	Adama
Proline 275	Prothioconazole	275 g/l	Bayer Crop Science
Prosaro	Prothioconazole Tebuconazole	125 g/l 125 g/l	Bayer Crop Science
Revystar XE	Mefentrifluconazole Fluxapyroxad	47.5/100 g/l	BASF
Sunorg-Pro	Metconazole	90 g/l	BASF
Talius/Justice	Proquinazid	200 g/l	Corteva
Tebucur 250	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
T0	GS30 (with no later than when 50% of varieties at GS30)		
		Cyflamid +	0.25 – 0.35 l/ha
		Tebucur 250 +	0.6-0.75 l/ha
		Comet 200	0.4 – 0.6 l/ha
	Note: Arizona is compulsory at T1 and T2 but can only then be used at one timing either at T0, T1.5 or T3	Arizona	1.0 l/ha

T1	GS32 (with most varieties at GS32)		
		Revystar XE +	1.0-1.5 l/ha
		Arizona +	1.0 l/ha
		Talius/Justice	0.15 l/ha
	<i>Optional for an eyespot situation</i>	Entargo	0.5 l/ha
	<i>Optional for a rust situation</i>	Elatus Era	0.6 l/ha

T1.5	GS33 (targeting leaf 2 emerging)		
	<i>Optional in a rust situation</i>	Sunorg Pro (Metconazole 250)	0.5 l/ha
	Note: 14-day interval between T1.5 Tebuconazole application and T2 application		
	<i>Optional in a septoria situation</i>	Prothioconazole	0.6 l/ha
	Note: Arizona is compulsory at T1 and T2 but can only then be used at one timing either at T0, T1.5 or T3	Arizona	1.0 l/ha

T2	GS39–45 and no later than 4 weeks after T1 application		
	Please refer to the Corteva website on guidance for water volumes	Univoq +	1.0 – 1.5 l/ha
		Arizona	1.0 l/ha
	<i>Optional nationally but compulsory for the East and Southern regions</i>	Tebuconazole 250	0.75 – 1.0 l/ha
	<i>Optional - If mildew established</i>	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
Note: Arizona is compulsory at T1 and T2 but can only then be used at one timing either at T0, T1.5 or T3. If used at T3 it 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. <i>Tebucur 250 has a maximum total dose limit of 2l/ha and can be applied up to GS71. In extreme yellow rust situations, there may be flexibility for a third application of Tebucur 250 at 0.5 l/ha, but please contact the relevant trials co-ordinator before doing so.</i>

Notes

No more than TWO applications of SDHIs should be applied to any cereal crop

No more than TWO applications of QoIs should be applied to any cereal crop

Depending on whether "knock down" or protectant activity is required, applications of Cyflamid (eradicator) 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			
<i>For disease infections before GS29 consult the relevant trials co-ordinator.</i>			

T1	GS29–31		
		Ascra Xpro +	0.8 - 1.0 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		
		Univoq +	1.0-1.5 l/ha
		Arizona	1.0 l/ha
	<i>Optional if mildew established</i>	<i>Cyflamid</i>	<i>0.25 – 0.5 l/ha</i>

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

Note

In a yellow rust situation, an application of tebuconazole 250 (0.75- 1.0 l/ha) can be made at an appropriate timing.

Winter Barley

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

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

T1	GS30–31 No later than 4 weeks after T0 application		
	Ascra Xpro +		0.7 – 1.25 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
<i>Optional: If net blotch or rhynchosporium is developing.</i> Not to be applied after the start of flowering.	Proline 275		0.3 – 0.5 l/ha

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

Spring Barley

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

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

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		
	<i>Optional: If net blotch, rhynchosporium or fusarium developing</i>	<i>Proline 275</i>	<i>0.3 – 0.5 l/ha</i>

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		
		Ascra Xpro +	0.7 - 1.2 l/ha
		Talius/Justice	0.15 l/ha
	<i>Optional - if crown rust is a problem.</i>	<i>Tebuconazole 250</i>	<i>0.5 l/ha</i>

T2	GS39–45		
		Elatus Era +	0.6 – 0.8 l/ha
		Cyflamid	0.25 – 0.35 l/ha

T3	GS45–59		
	<i>Optional: If crown rust pressure has remained high before GS59–61.</i>	<i>Tebuconazole 250 +</i>	<i>0.5 l/ha</i>
		<i>Comet 200</i>	<i>0.5 l/ha</i>

Spring Oats

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

T1	GS Mid to late tillering		
Note: Maximum applications Siltra Xpro is 1.0 l/ha.		Ascra Xpro +	0.7– 1.2 l/ha
		Talius/Justice	0.2 l/ha
	<i>Optional: If crown rust is a problem.</i>	<i>Tebuconazole 250</i>	<i>0.5 l/ha</i>

T2	GS39–45		
		Elatus Era +	0.6 – 0.8 l/ha
		Cyflamid	0.25 – 0.35 l/ha
	<i>Optional: If crown rust pressure is a problem.</i>	<i>Comet 200 +</i>	<i>0.5 l/ha</i>
		<i>Tebuconazole 250</i>	<i>0.5 l/ha</i>

Winter Rye and Triticale

Treatment Timing	Growth Stage (GS) - target timing or disease	Product / active ingredient	Rate
T0	GS30		
		Tebuconazole 250 +	0.75 – 1.0 l/ha
		<i>Optional: If mildew present, trial operators' discretion whether to use either at T0 or T1.</i> Cyflamid	0.25 – 0.35 l/ha

T1	GS31–32		
	Increase rate for high rust.	Elatus Era +	1.0 l/ha
	<i>Optional: If mildew present, trial operators' discretion whether to use either at T0 or T1.</i>	Cyflamid	0.25 – 0.35 l/ha

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

T3	GS59–61		
	<i>Optional: Rye only if rust remains a problem before GS61.</i>	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		
		Tebuconazole 250 +	0.75 – 1.0 l/ha
		Talius/Justice	0.15 l/ha

T2	GS32–45		
		Elatus Era	1.0 l/ha