

RECOMMENDED LISTS

AHDB Recommended Lists (RL) for cereals and oilseeds

Cereal trials fungicide protocol

For Great Britain only – NOT to be used in Northern Ireland

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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Appendix 1 - Fungicide Protocol

Introduction

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

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This programme is for use on AHDB Recommended List and Variety List cereal trials in **2024/25**:

- **For spring and summer applications to trials for harvest 2025**

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. **Compulsory treatments** are in bold text and *Optional are in italics*. The protocol is designed to be 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 the relevant Trials Co-Ordinator 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 VL Co-ordinator. Changes to dose rates will only be agreed in exceptional circumstances, such as drought-stressed trials under low disease pressure.

Please contact the RL Trials Co-ordinator or VL 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. If a generic product is the only option available, check that the amount of active ingredient (ai) in the generic product is the same as the rate given in the protocol.

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, two SDHI fungicides and one application of a Qil fungicide are to be applied to any crop.

Changes from previous version

Below is a summary of product changes from the previous protocol, please ensure that whoever is making the application has the up-to-date version of the protocol and understands the product and rates to be applied at each timing for respective crops.

Page	Timing	Details of change
4&5	Product list	Sunorg-Pro - removed Miravis Plus – added RevyPro added Amistar added Imtex added Era added
6	WW T0	Arizona - removed
6	WW T1	Revystar XE - removed Elatus Era - removed Univoq - added Imtrex – added for brown rust control in South and East Talius/Justice becomes optional
6	WW T1.5	Sunorg Pro - removed Prothioconazole - removed Revy Pro added
7	WW T2	Univoq - removed Miravis Plus - added Era - added
7	WW T3	Tebuconazole 250 - added as optional for brown rust control
9	WB T1	Ascra Xpro max dose reduced to 1.2l/ha
9	WB T2	RevyStar XE - removed Proline 275 - removed Miravis Plus - added Arizona – becomes optional
10	SB T2	RevyStar XE - removed Miravis Plus - added Era – added

		Arizona becomes optional
11	WO T1	Comet 200 - added
11	WO T2	Imtrex optional - added for crown rust control
12	SO T1	Tebuconazole - removed Amistar - optional added for crown rust control

Products, active substances, dose and applications and manufacturers

Product	Active substances	Amount of active substance	Crops/Max dose/No App's	Manufacturer
Amistar	Azoxystrobin	250g/l	all cereals max dose 1.0 l/ha Max number treatments per crop 2	Syngenta
Arizona	Folpet	500g/l	wheat, triticale, barley max dose 1.5 l/ha Max total dose of 3 l/ha	Adama
Ascra Xpro	Bixafen Fluopyram Prothioconazole	65g/l 65g/l 130g/l	wheat, triticale, w. rye max dose 1.5 l/ha. Max total dose 3.0 l/ha. barley & oats 1.2 l/ha. Max total dose 1.2 l/ha.	Bayer Crop Science
Comet 200	Pyraclostrobin	200g/l	all cereal crops max dose 1.25 l/ha Max number treatments per crop 2	BASF
Cyflamid	Cyflufenamid	50 g/l	all cereal crops max dose 0.5 l/ha Max number treatments per crop 2	Certis
Era	Prothioconazole	300g/l	Max individual dose 0.65l/ha max 2 applications per crop	Syngenta
Elatus ERA	Benzovindiflupyr Prothioconazole	75g/l 150g/l	all cereal crops max dose 1.0 l/ha Max number treatments per crop 1	Syngenta
Entargo	Boscalid	500g/l	wheat, barley max dose 0.7 l/ha. Max total dose.0.7l /ha	BASF
Imtrex	Fluxapyroxad	62.5g/l	w. wheat, s. wheat, d. wheat, barley, rye, triticale max dose 2.0 l/ha Max number treatments per crop 2	BASF
Miravis Plus	pydiflumetofen	62.5g/l	wheat, barley max dose 2.65 l/ha for control of foliar disease all cereals max dose 3.2 l/ha for control of fusarium species Max number treatments per crop 2	Syngenta
Proline 275	Prothioconazole	275g/l	wheat, w. rye, barley, oats max dose 0.72 l/ha Max total dose wheat, w. rye 2.16 l/ha Max total dose barley & oats 1.44 l/ha	Bayer Crop Science
Prosaro	Prothioconazole Tebuconazole	125g/l 125g/l	wheat, barley, oats & w.rye max dose 1.0 l/ha Max number treatments per crop 2	Bayer Crop Science
Revystar XE	Mefentrifluconazole Fluxapyroxad	47.5g/l 100g/l	all cereal crops max dose 1.5l/ha Max number treatments per crop 2	BASF
RevyPro	Mefentrifluconazole Prothioconazole	50g/l 100g/l	all cereal crops max dose 1.5l/ha Max 1 application per crop @ max dose	BASF
Talius/Justice	Proquinazid	200g/l	wheat, barley, oats, w. rye and triticale 0.25 l/ha Max number treatments per crop 2	Corteva

Tebuconazole 250	Tebuconazole	250g/l	1.0 l/ha Check individual product label for restrictions on use	
Univoq	Fenpicoxamid Prothioconazole	50g/l 100g/l	wheat, rye triticale 2.0l /ha Max number treatments per crop 1	Corteva

**When you are applying optional treatments, you must ensure adherence 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
		Tebuconazole 250 +	0.6-0.1.0 l/ha
		Comet 200	0.4 – 0.6 l/ha

T1	GS32 (When 50% varieties at GS32)		
	Univoq +		1.25 – 1.5 L/ha
	Arizona		1.0 l/ha
<i>Optional for an eyespot situation</i>	<i>Entargo</i>		<i>0.5 l/ha</i>
<i>Optional for a mildew situation</i>	<i>Talius/Justice</i>		<i>0.15 l/ha</i>
<i>For Brown rust, Compulsory South and East</i>	<i>Imtrex</i>		<i>0.75 to 1.0 l/ha</i>

T1.5	GS33 (targeting leaf 2 emerging)		
<i>Strongly recommended for high pressure Yellow rust, Brown rust & septoria situations.</i>	<i>RevyPro</i>		<i>1.0l/ha</i>
Note: Arizona is compulsory at T1 and T2 but can only then be used at one other timing either at T1.5 or T3	<i>Arizona</i>		<i>1.0 l/ha</i>

T2	GS39–45 and no later than 4 weeks after T1 application	
	Miravis Plus +	1.55 – 2.0 l/ha
	Era +	0.5 – 0.65 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
<i>Optional in brown rust situation</i>	Tebuconazole 250	0.5 l/ha
Note: Arizona is compulsory at T1 and T2 but can only then be used at one other timing either at T1.5 or T3. If used at T3, it cannot be used beyond GS59.	Arizona	1.0 l/ha

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

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.
- No more than one application of Qil's should be applied to any cereal crop.
- Ensure Tebuconazole product applications are compliant with label restrictions.
- Depending on 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			
<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>	Cyflamid	0.25 – 0.5 l/ha

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

Notes:

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

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 coordinator</i>			

T0	GS26–29at start of Spring growth		
	Proline 275 +		0.3 – 0.5 l/ha
	Comet 200		0.3 – 0.5 l/ha

T1	GS31 No later than 4 weeks after T0 application		
	Ascra Xpro +		0.7 – 1.2 l/ha
	Arizona +		1.0 l/ha
	Cyflamid		0.25 – 0.35l/ha

T2	GS39–45 (earliest varieties should not exceed GS45)		
	Miravis Plus +		1.25 - 1.5 l/ha
	Era		0.42 - 0.5 l/ha
<i>Optional – for high ramularia pressure</i>	<i>Arizona</i>		<i>1.0 l/ha</i>

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

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	GS 30-31 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.		
		Miravis Plus	1.0 - 1.25 l/ha
		Era	0.33-0.42 l/ha
	<i>Optional for high ramularia pressure.</i>	<i>Arizona</i>	<i>1.0 l/ha</i>

**If high disease pressure after GS 59 contact the relevant trials manager.*

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 - 0.25 l/ha
		Comet 200	0.5 l/ha
	<i>Optional - if crown rust is a problem.</i>	<i>Tebuconazole 250</i>	<i>0.5-1.0 l/ha</i>

T2	GS39–45		
	Reports of variable control of crown rust with Elatus, if disease pressure high then use Imtrex option.	Elatus Era +	0.6 – 1.0 l/ha
		Cyflamid	0.25 – 0.35 l/ha
	<i>Optional for crown rust control</i>	<i>Imtrex</i>	<i>0.5-0.75 l/ha</i>

T3	GS45–59		
	<i>Optional: If crown rust pressure has remained high before GS59–61.</i>	<i>Tebuconazole 250 +</i>	<i>0.5-1.0 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		
		Ascra Xpro +	0.7– 1.2 l/ha
		Talius/Justice	0.15-0.25 l/ha
	<i>Optional if crown rust or septoria a concern</i>	<i>Amistar</i>	<i>1.0 l/ha</i>

T2	GS39–45		
		Elatus Era +	0.6 –1.0 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>	<i>Cyflamid</i>	<i>0.25 – 0.35 l/ha</i>

T1	GS31–32		
	Increase rate for if rust a concern.	Elatus Era +	0.8 - 1.0 l/ha
	<i>Optional: If mildew present, trial operators' discretion whether to use either at T0 or T1.</i>	<i>Cyflamid</i>	<i>0.25 -0.35 l/ha</i>

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

T3	GS59–61		
	<i>Optional: For Rye only if rust remains a problem before GS61.</i>	<i>Prosaro</i>	<i>0.8 l/ha</i>

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