Risk assessment for fusarium mycotoxins in wheat

Always consider your local conditions and consult a professional agronomist, if necessary

Action points

- Follow best practice to minimise fusarium mycotoxins in cereals
- Use this sheet or the online tool to assess risk of fusarium mycotoxins
- Assess risk pre-flowering and consider T3 fungicide (ear spray)
- Take accurate measurements of rainfall at flowering and pre-harvest
- Calculate final risk score at harvest and record on grain passport
- Check purchaser requirements to determine whether mycotoxin testing is required

The need for accurate risk assessment

There are legal limits for fusarium mycotoxins deoxynivalenol (DON) and zearalenone (ZON) in wheat intended for human consumption and guidance limits for grain for feed. The owner (farmer, merchant or processor) is legally obliged to ensure the grain is safe for human consumption. For information on the current legal limits, please see **cereals.ahdb.org.uk/mycotoxins**

Assurance schemes

Crop assurance schemes are designed to help farmers comply with food laws. They include an audit of the risk assessment and an AHDB risk assessment score is required on the grain passport.

Risk factors

Region

DON and ZON levels in wheat tend to be highest in southern and eastern England. Higher humidity in coastal areas may increase risk.

Previous crop

Crop residue on the soil surface is the major source of inoculum. The greatest risk is after grain maize or forage maize. Rotations should aim to minimise wheat sown after maize.

Cultivation

Complete burial of debris by ploughing is most effective at reducing the risk, while risk is highest with direct drilling. Intensive non-inversion tillage (three or more passes with discs or tines) is more effective at reducing risk than reduced non-inversion tillage (one or two passes).

Wheat variety

The risk assessment includes varietal resistance based on the AHDB Recommended List (RL) rating for fusarium ear blight. Learn more at **cereals.ahdb.org.uk/varieties**

T3 ear fungicide

Using an appropriate dose of an approved T3 ear fungicide with activity against fusarium and/or mycotoxin production reduces the risk. See **cereals.ahdb.org.uk/fungicide** for information on fungicide performance and activity.

Rainfall at flowering

Wet weather promotes fusarium development.
The score is based on total rainfall during flowering (GS59–69 – full ear emergence to end of flowering).

Rainfall pre-harvest

Based on total rainfall from GS87 (dough development stage/start of ripening stage) to harvest.

Further information

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For other relevant publications, tools, videos and further information, please see **ahdb.org.uk/mycotoxins**

For rainfall information from the Met Office, please see **wow.metoffice.gov.uk**

If you require further copies of this form, please photocopy or download it from **ahdb.org.uk/mycotoxins**

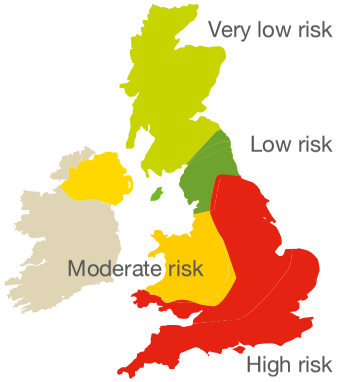
Farm name									
Town		County				Postcode			
Store name			Field	Field	Field	Field	Field	Field
Factor	Details	Risk	Score	Score	Score	Score	Score	Score
Region (see map)	High	4						
	Moderate	2						
	Low	-2						
	Very low	-4						
Previous crop	Maize	6						
	Other	0						
Cultivation	Direct-drilled	4						
	Standard non-inversion tillage	3						
	Intensive non-inversion tillage	2						
	Plough (soil inversion)	0						
Fusarium ear blight resistance rating	RL rating 1–5	1						
	RL rating 6–9	0						
	RL rating unknown	1						
	Pre-flowering risk score							
T3 ear fungicide	<50% dose	0						
	50–74% dose	-2						
	≥75% dose	-3						
Rainfall at flowering (GS59–69)	>80mm	9						
	40–80mm	6						
	10–40mm	3						
	<10mm	0						
Rainfall pre-harvest (GS87 to harvest)	>120mm	12						
	80–120mm	9						
	40–80mm	6						
	20–40mm	3						
	<20mm	0						
	Final risk score							

Date		Signature	

Instructions

- Enter details of the store into which wheat from a single or multiple field(s) has been placed
- Enter individual field names. **Note:** Fields can be grouped if grown with the same agronomy and subject to the same rainfall
- For each field, enter the appropriate risk score for the factors stated. **Note:** Ensure both positive and negative scores are accounted for
- Record the final risk score on the grain passport. **Note:** If a load contains grain from multiple fields, record the highest score on the passport. Low-risk fields can have a negative final risk score
- Check purchaser requirement to determine whether mycotoxin testing is required

Final risk score	
High	Over 15
Medium	10–15
Low	Under 10



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