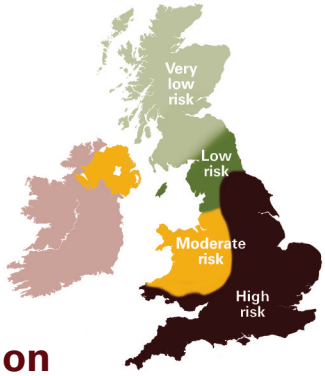
HGCA risk assessment for fusarium mycotoxins in wheat

MANAGE YOUR MYCOTOXIN RISK

Seven steps to good business practice



Action

Use this HGCA sheet or the online tool to assess risk of fusarium mycotoxins: www.hgca.com/mycotoxins
Consider modifying your agronomy.
Assess risk pre-flowering and consider T3 fungicide (ear spray).
Check end-user requirement to determine whether mycotoxin testing is required.

Always consider your local conditions and consult a BASIS-qualified adviser if necessary.

Further information

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Guidelines to minimise risk of fusarium mycotoxins in cereals (HGCA, 2010)
Cereal growth stages – a guide for crop treatments (HGCA, 2009)
HGCA Wheat Disease Management Guide (updated annually)
The Encyclopaedia of Cereal Diseases (HGCA/BASF, 2008)
www.hgca.com/mycotoxins
www.hgca.com/varieties
www.hgca.com/publications
www.cropmonitor.co.uk

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 **www.hgca.com/mycotoxins**.

Crop assurance schemes are designed to help farmers comply with food law. They include an audit of the risk assessment and an HGCA 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. Information from CropMonitor (**www.cropmonitor.co.uk**) can be used to assess overall risk on a yearly and regional basis.

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 HGCA Recommended List rating for fusarium ear blight (**www.hgca.com/varieties**).

T3 ear fungicide – Using an appropriate dose rate of a T3 ear fungicide recommended against fusarium and/or mycotoxin production reduces the risk. Current approved fungicides are products containing dimoxystrobin, metconazole, prothioconazole, epoxiconazole, tebuconazole, bromuconazole or thiophanate methyl.

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 crop starting to ripen (GS87) to harvest.

Instructions

- Enter details of the store into which wheat from a single or multiple fields has been placed.
- Enter individual field names; fields can be grouped if grown with the same agronomy.
- For each field enter the appropriate risk score for the factors stated.
- Record the final risk score on the grain passport.

HGCA AHDB

Please photocopy this form if necessary, or download from www.hgca.com/mycotoxins

Farm name									
Town		**County**				**Postcode**			
Store name		**Field**	**Field**	**Field**	**Field**	**Field**	**Field**	**Field**
Factor	**Details**	**Risk**	**Score**	**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							
Wheat variety Recommended List fusarium ear blight resistance rating	RL rating 1-5	1							
	RL rating 6-9	0							
	RL rating unknown	1							
Your pre-flowering risk score									
T3 ear fungicide	Under 50% dose rate of approved fungicide	0							
	50-74% dose rate of approved fungicide	-2							
	75% or above dose rate of approved fungicide	-3							
Rainfall at flowering (GS59-69)	More than 80 mm	9							
	40-80 mm	6							
	10-40 mm	3							
	Less than 10 mm	0							
Rainfall pre-harvest (GS87 to harvest)	More than 120 mm	12							
	80-120 mm	9							
	40-80 mm	6							
	20-40 mm	3							
	Less than 20 mm	0							
Your final risk score									

Date	**Signature**

Test your grain:
– If final risk score exceeds 15
– If standing crop has high fusarium incidence
Record final risk score on the grain passport.

Risk	**Final score**
High	Over 15
Medium	10-15
Low	Under 10

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