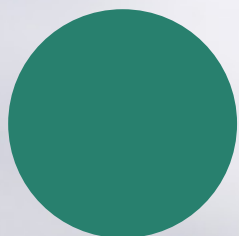


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World Mycotoxin Survey

The Global Threat
January – March 2025



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World Overview

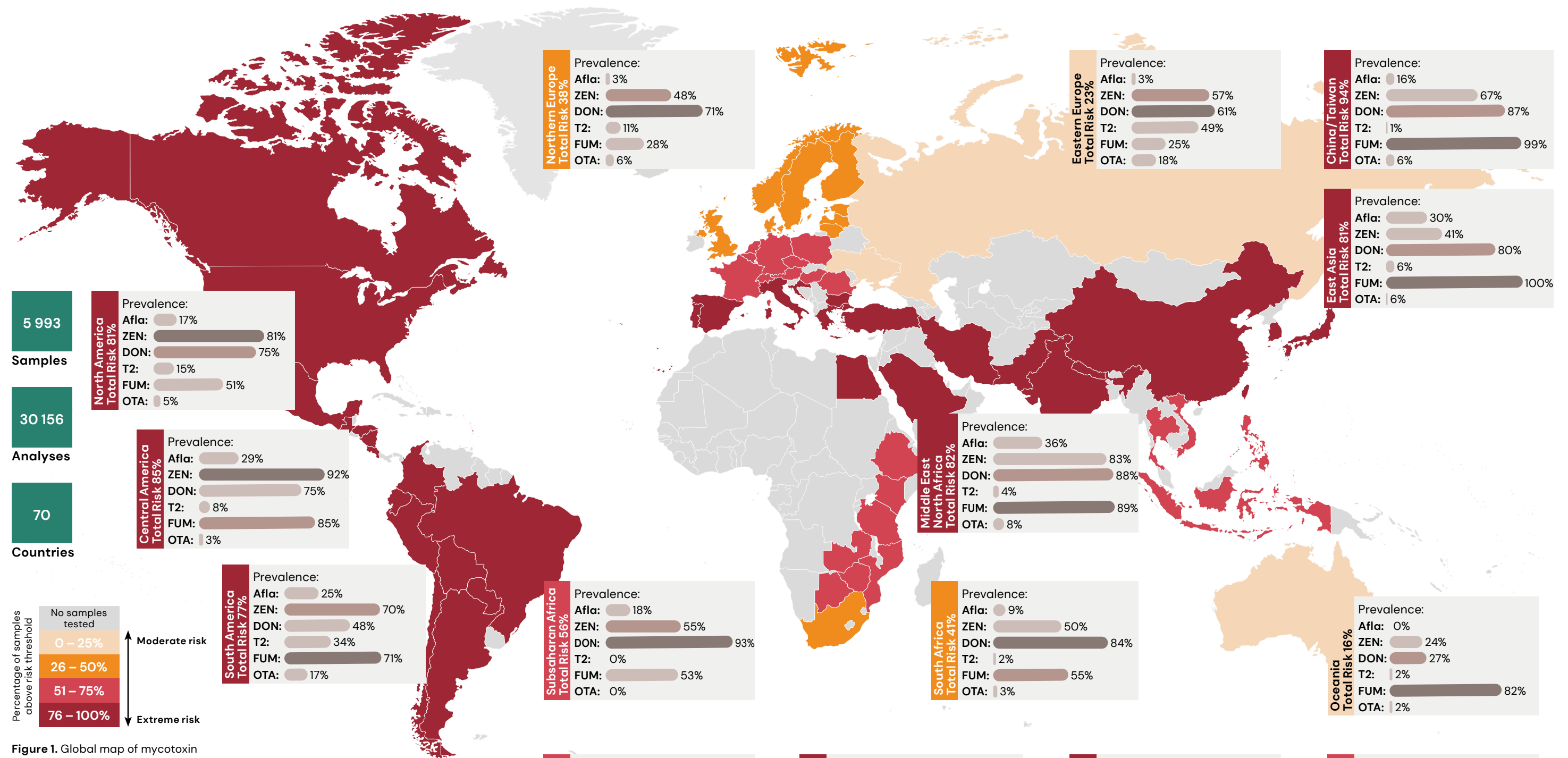


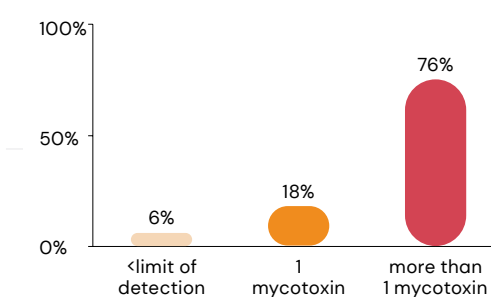
Figure 1. Global map of mycotoxin prevalence and risk in different regions.

Risk Level

The risk level expresses the percentage of samples testing positive for at least one mycotoxin above the threshold level in parts per billion (ppb).
Recommended risk threshold of major mycotoxins in ppb

Afla	ZEN	DON	T2	FUM	OTA
2	50	150	50	500	10

Co-contamination



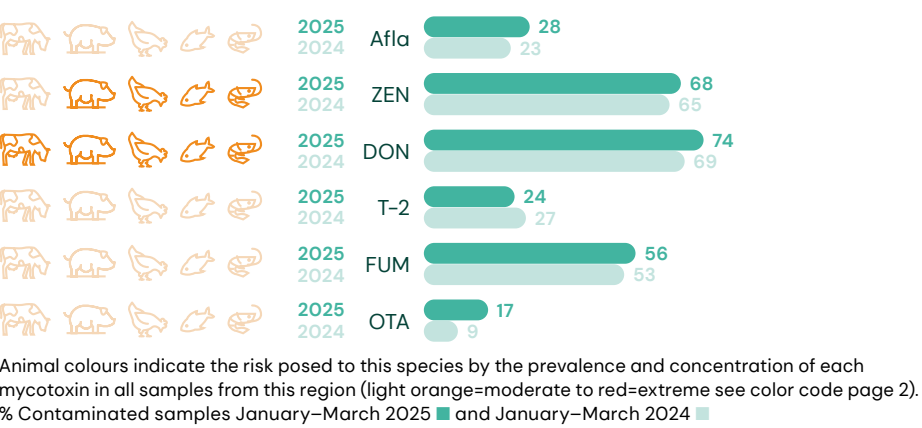
Number of mycotoxins per sample based on samples tested for 3 or more mycotoxins.

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World Mycotoxin Survey

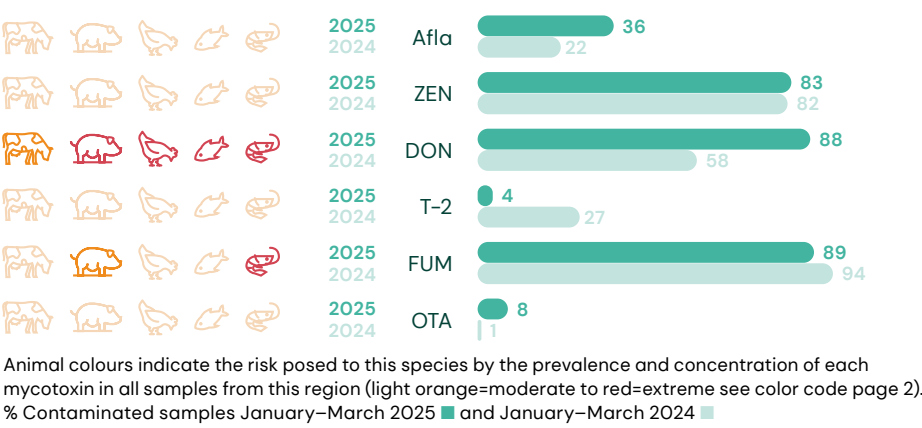
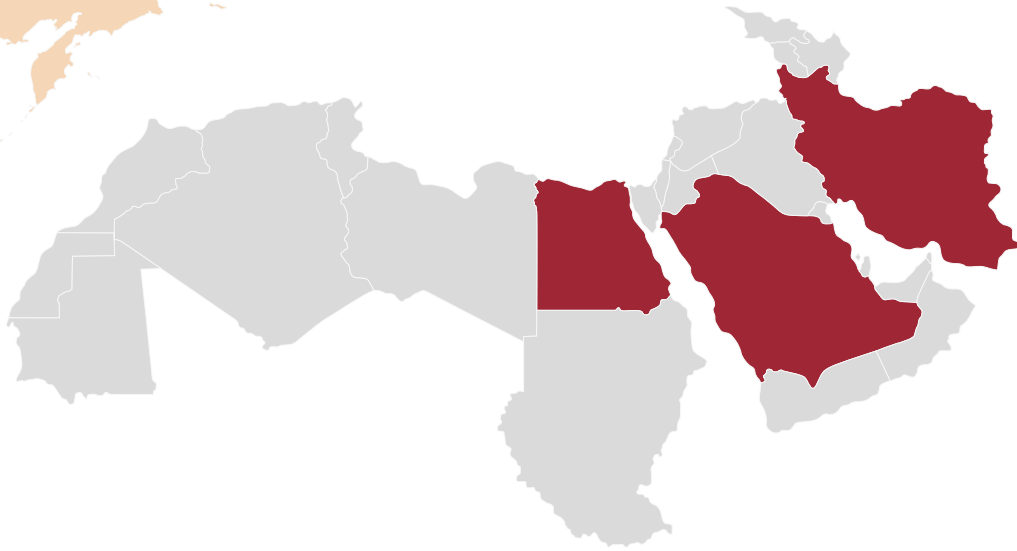
The Global Threat –
January to March 2025

Europe



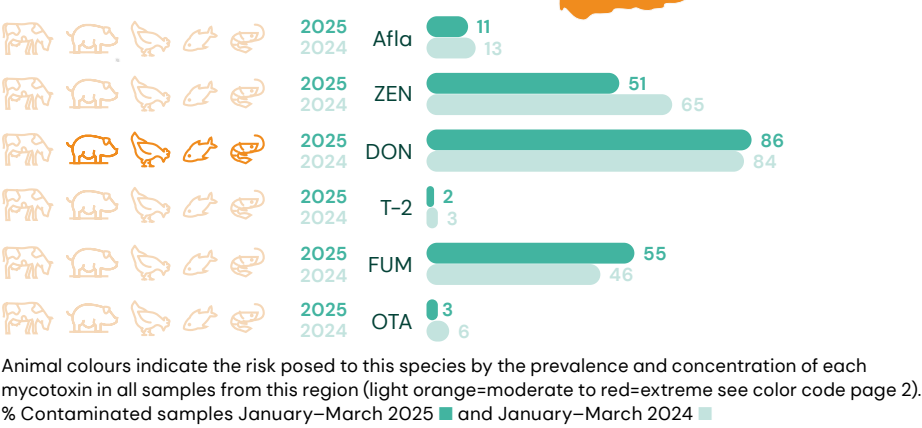
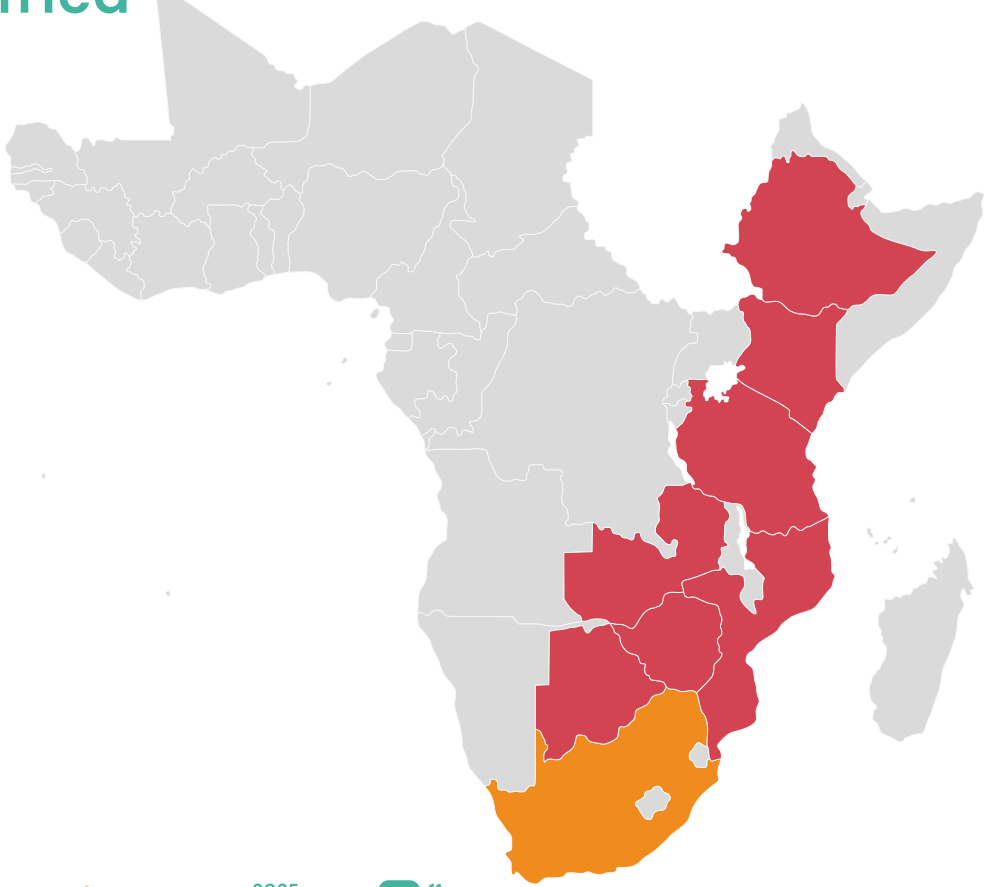
Total samples: 2 378	Afla	ZEN	DON	T-2	FUM	OTA
Number of samples tested	1 863	2 292	2 290	1 702	1 711	1 682
% Contaminated samples	28%	68%	74%	24%	56%	17%
Average of positive (ppb)	16	188	846	27	856	12
Median of positive (ppb)	10	36	280	17	135	3
Maximum (ppb)	909	5 210	15 648	782	84 985	338

Middle East & North Africa



Total samples: 95	Afla	ZEN	DON	T-2	FUM	OTA
Number of samples tested	95	95	95	95	95	95
% Contaminated samples	36%	83%	88%	4%	89%	8%
Average of positive (ppb)	6	26	291	13	1 049	3
Median of positive (ppb)	1	20	242	13	644	1
Maximum (ppb)	47	193	1 045	13	11 027	12

Sub-saharan Africa



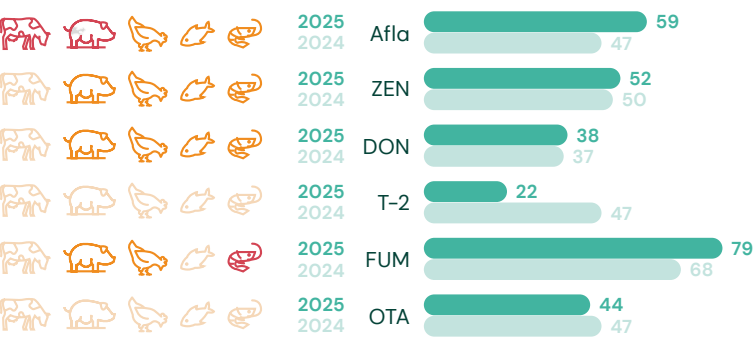
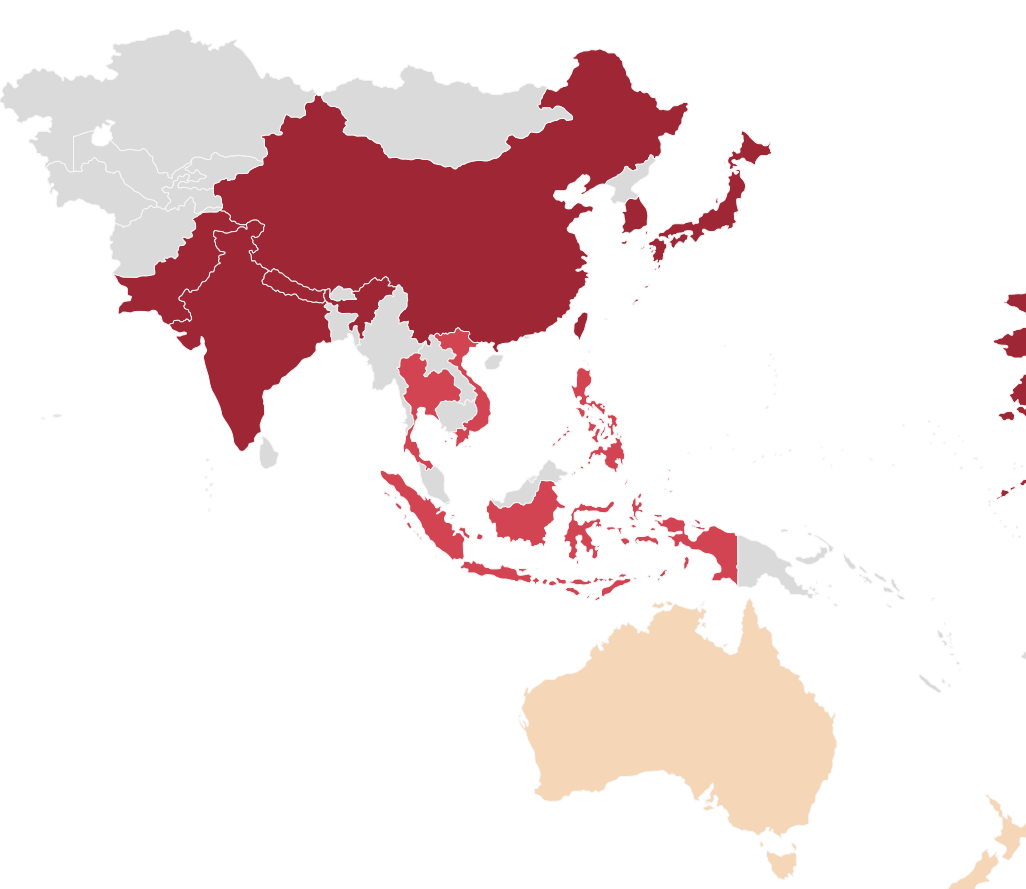
Total samples: 293	Afla	ZEN	DON	T-2	FUM	OTA
Number of samples tested	293	293	293	293	293	293
% Contaminated samples	11%	51%	86%	2%	55%	3%
Average of positive (ppb)	35	47	292	28	267	4
Median of positive (ppb)	2	9	129	35	64	4
Maximum (ppb)	400	1 153	6 143	35	2 281	6

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The Global Threat –
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AsiaNorth AmericaCentral & South America



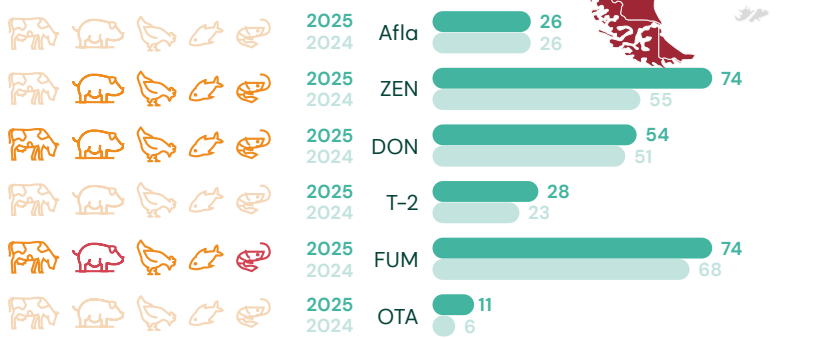
Animal colours indicate the risk posed to this species by the prevalence and concentration of each mycotoxin in all samples from this region (light orange=moderate to red=extreme see color code page 2).
% Contaminated samples January–March 2025 and January–March 2024

Total samples: 1 087	Afla	ZEN	DON	T-2	FUM	OTA
Number of samples tested	1 061	1 074	1 086	1 005	1 054	980
% Contaminated samples	59%	52%	38%	22%	79%	44%
Average of positive (ppb)	29	122	564	34	1 728	15
Median of positive (ppb)	15	48	346	31	840	9
Maximum (ppb)	616	11 698	6 650	114	676 340	217



Animal colours indicate the risk posed to this species by the prevalence and concentration of each mycotoxin in all samples from this region (light orange=moderate to red=extreme see color code page 2).
% Contaminated samples January–March 2025 and January–March 2024

Total samples: 390	Afla	ZEN	DON	T-2	FUM	OTA
Number of samples tested	390	390	390	390	390	390
% Contaminated samples	17%	81%	75%	15%	51%	5%
Average of positive (ppb)	4	77	857	74	5 002	108
Median of positive (ppb)	1	33	476	16	1 210	2
Maximum (ppb)	57	1 311	11 785	1 137	69 397	45 778



Animal colours indicate the risk posed to this species by the prevalence and concentration of each mycotoxin in all samples from this region (light orange=moderate to red=extreme see color code page 2).
% Contaminated samples January–March 2025 and January–March 2024

Total samples: 1 748	Afla	ZEN	DON	T-2	FUM	OTA
Number of samples tested	1 590	1 582	1 259	1 140	1 455	650
% Contaminated samples	26%	74%	54%	28%	74%	11%
Average of positive (ppb)	5	90	626	44	3 100	3
Median of positive (ppb)	2	44	290	34	1 592	2
Maximum (ppb)	76	2 168	8 991	198	265 842	12

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World Mycotoxin Survey

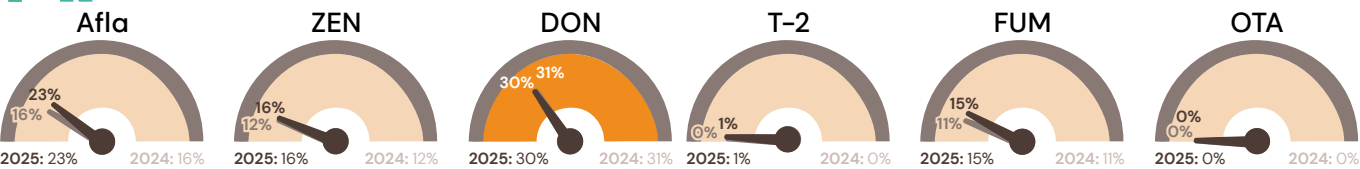
The Global Threat – January to March 2025

Comparison of development 2024 Q1 to 2025 Q1 of prevalence and average concentration levels based on all raw commodities and finished feed globally

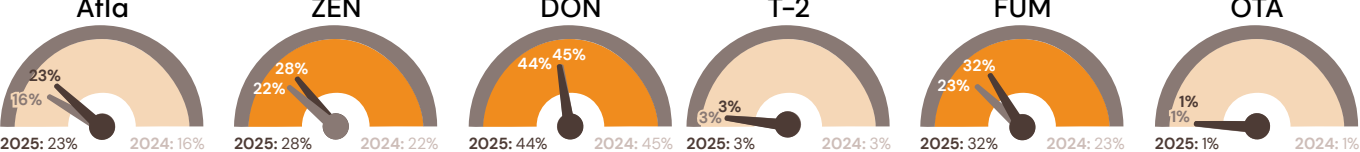
2024 Q1	Afla	ZEN	DON	T-2	FUM	OTA
Prevalence	26%	61%	62%	26%	59%	12%
Average of positive (ppb)	10	94	1154	32	1468	12

2025 Q1	Afla	ZEN	DON	T-2	FUM	OTA
Prevalence	32%	67%	63%	22%	66%	20%
Average of positive (ppb)	17	130	714	37	1925	15

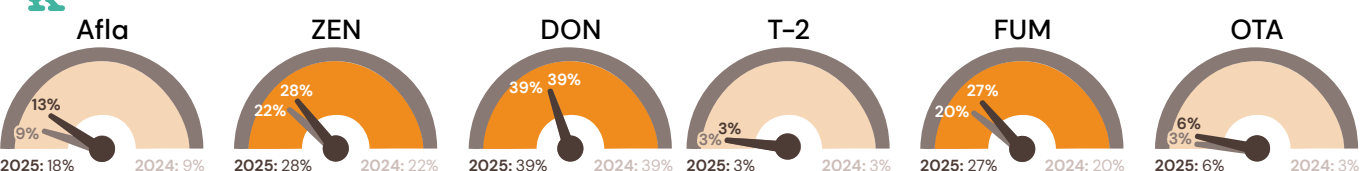
Ruminant risk development 2024 Q1 to 2025 Q1 based on all raw commodities and finished feed globally



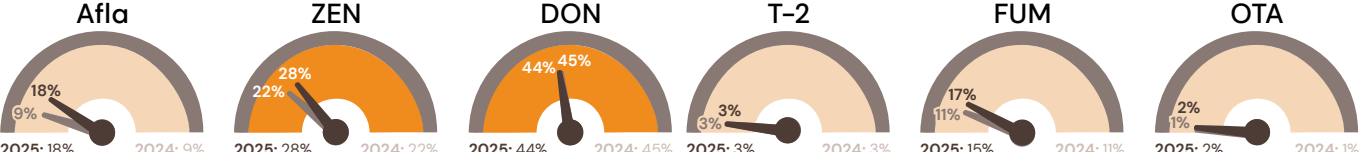
Swine risk development 2024 Q1 to 2025 Q1 based on all raw commodities and finished feed globally



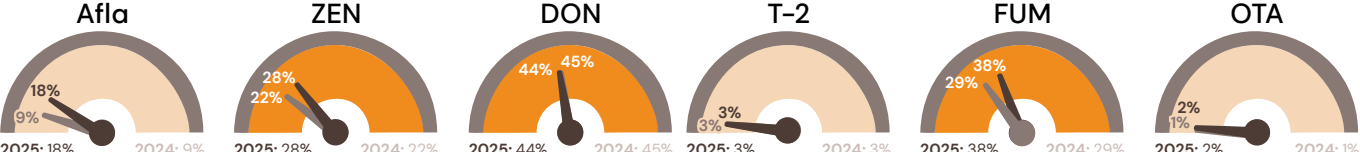
Poultry risk development 2024 Q1 to 2025 Q1 based on all raw commodities and finished feed globally



Fish risk development 2024 Q1 to 2025 Q1 based on all raw commodities and finished feed globally



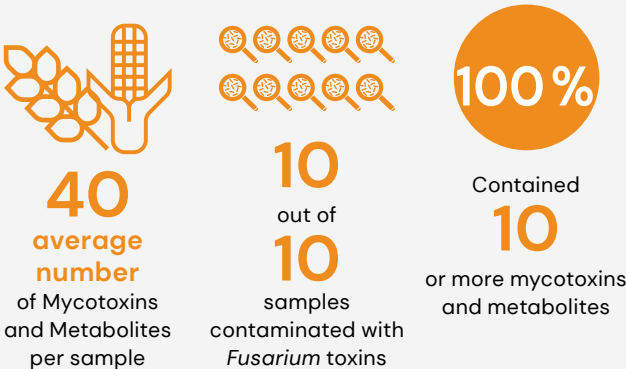
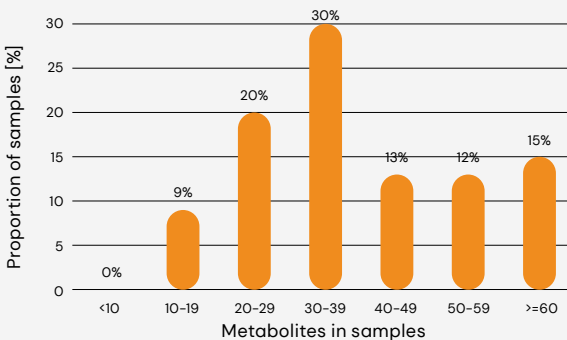
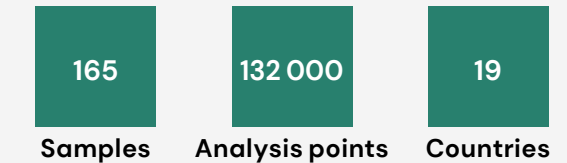
Shrimp risk development 2024 Q1 to 2025 Q1 based on all raw commodities and finished feed globally



The mycotoxin risk levels for different species that are used in the interpretation of mycotoxin concentrations in these figures are based on worldwide practical experience in the field, scientific trials conducted to reflect as closely as possible field situations, opinions of working groups and authorities (incl. regulations and guidance values).

Multiple mycotoxin occurrence

Spectrum 380® results January to December 2024: the most comprehensive mycotoxin analysis available



Spectrum 380®:

The most advanced and comprehensive mycotoxin analysis available. It detects > 800 different mycotoxins (including masked and modified forms and emerging mycotoxins), fungal metabolites as well as plant and bacterial toxins and metabolites. This is not a routine analysis but it is done in special cases and/or also of course as part of research of future objectives. Spectrum 380® is developed and conducted by the world's leading independent mycotoxin research lab at the Department of Agrobiotechnology (IFA-Tulln) at the University of Natural Resources and Life Sciences Vienna and offered through cooperation with Performance Solutions plus Biomin.

Spectrum Top®50:

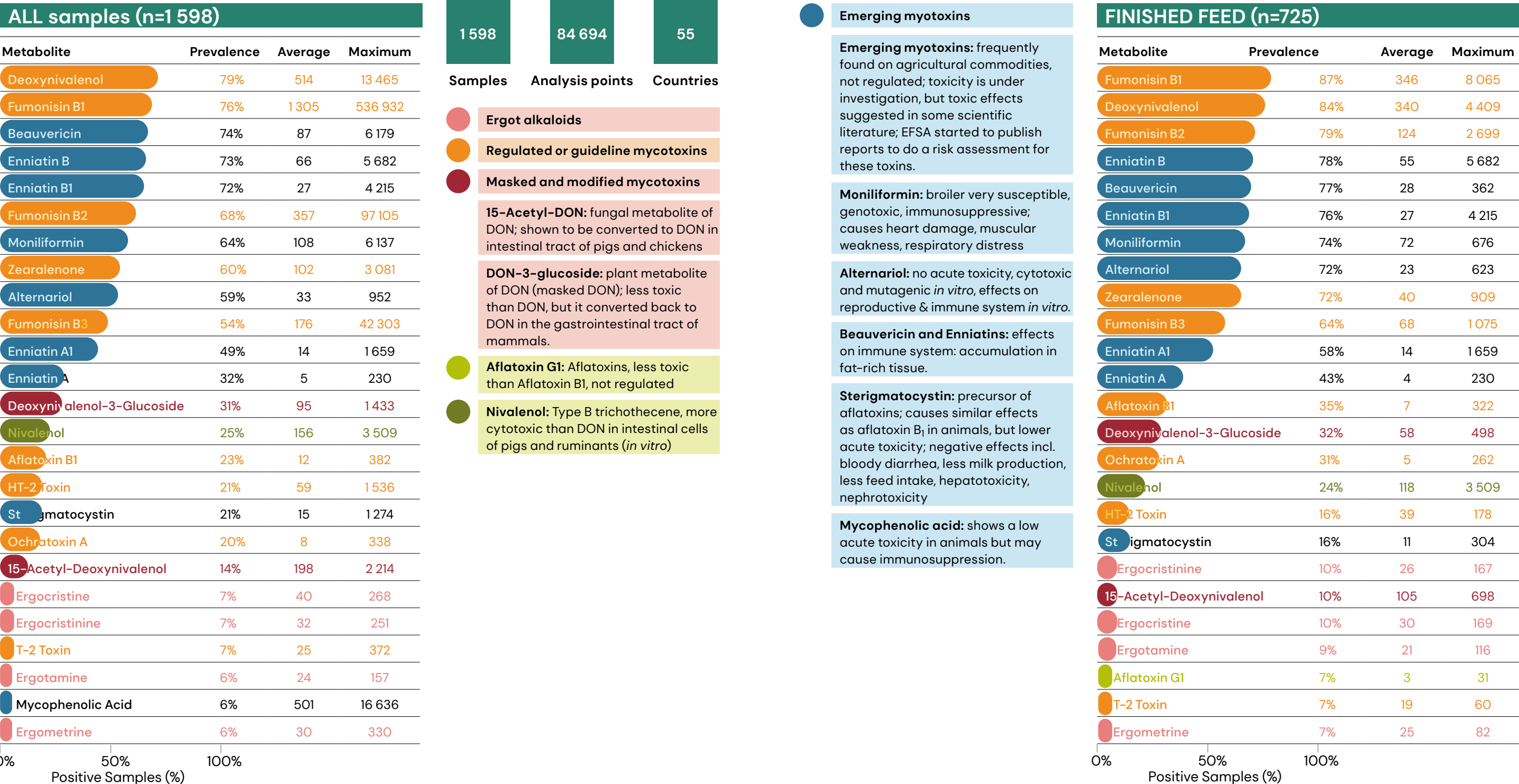
The most comprehensive mycotoxin analysis commercially available. It detects > 50 different mycotoxins (including masked and modified forms), emerging mycotoxins and fungal metabolites. The Spectrum Top® 50 method was developed by scientists of Romer Labs, a leading global supplier of diagnostic solutions for food and feed safety.

Mycotoxins & metabolites

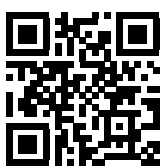
Metabolite	Prevalence	Average	Maximum
Tryptophol	94%	234	5 516
Enniatin B	87%	59	723
Enniatin B1	82%	30	367
Infectopyron	79%	2 427	48 048
Abscisic acid	77%	150	803
Equisetin	72%	171	4 761
Deoxynivalenol	72%	615	14 851
Emodin	70%	43	1 251
Aurofusarin	69%	511	7 330
Flavoglucanin	68%	367	24 859
Enniatin A1	64%	11	136
3-Nitropropionic acid	62%	131	3 943
Culmorin	62%	24	263
Chrysogin	61%	14	112
Siccanol	60%	257	13 400
Neoechinulin A	60%	135	3 985
Asperphenamate	56%	148	5 299
Zearalenone	54%	586	8 623
15-Hydroxyculmorin	54%	87	530
Brevianamid F	54%	117	3 569
Asperglaucide	53%	111	4 395
Moniliformin	52%	20 980	157 600
Daidzein	50%	30 655	217 400

Positive Samples [%] for metabolites present in >50% of samples (orange bars indicate regulated or guideline mycotoxins; red bar indicates a masked mycotoxin). Cut off for all metabolites 1 ppb (except for aflatoxins 0.5 ppb). Average of positives and Maximum are presented in ppb.

Overview of the most frequently found mycotoxins, their masked and modified forms as well as emerging mycotoxins in all samples and finished feed



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