Mycotoxin Monthly Survey
December 2023

dsm-firmenich

Mycotoxins & Analysis

LC-MS/MS

Romer Labs®

The survey results represent samples sent in for surveillance testing only and does not include any sample submitted following clinical signs.

Mycotoxin Group	Mycotoxins	OLD LOD (ppb)	NEW! LOD (ppb)	Limit of Quantitation (ppb)
Aflatoxins (Afla)	Aflatoxin B1	1.3	**0.2**	0.6
	Aflatoxin B2	1.2	**0.2**	0.6
	Aflatoxin G1	1.1	**0.2**	0.6
	Aflatoxin G2	1.6	**0.2**	0.6
A-Trichothecenes (A-Trich)	T-2 Toxin	100.0	**5**	15
	HT-2 Toxin	100.0	**5**	15
	Neosolaniol	100.0	**5**	15
	Diacetoxyscirpenol (DAS)	100.0	**5**	15
B-Trichothecenes (B-Trich)	Deoxynivalenol (DON/Vomitoxin)	100.0	**105**	350
	3-Acetyl-deoxynivalenol (3-AcDON)	100.0	**105**	350
	15-Acetyl-deoxynivalenol (15-AcDON)		**105**	350
	Nivalenol (NIV)	100.0	**105**	350
	Fusarenon X (FusX)	100.0	**105**	350
Fumonisins (FUM)	Fumonisin B1	100.0	**50**	160
	Fumonisin B2	100.0	**50**	160
	Fumonisin B3	100.0	**50**	160
Zearalenone (ZEN)	Zearalenone (ZEN)	51.7	**1**	5
Ochratoxin A (OTA)	Ochratoxin A (OTA)	1.1	**0.4**	1.2

*Results are reported as the summation of mycotoxin levels detected per Mycotoxin Group.
(For example, B-Trich represents total contamination detected for DON + 3-AcDON + 15-AcDON + NIV + FusX)

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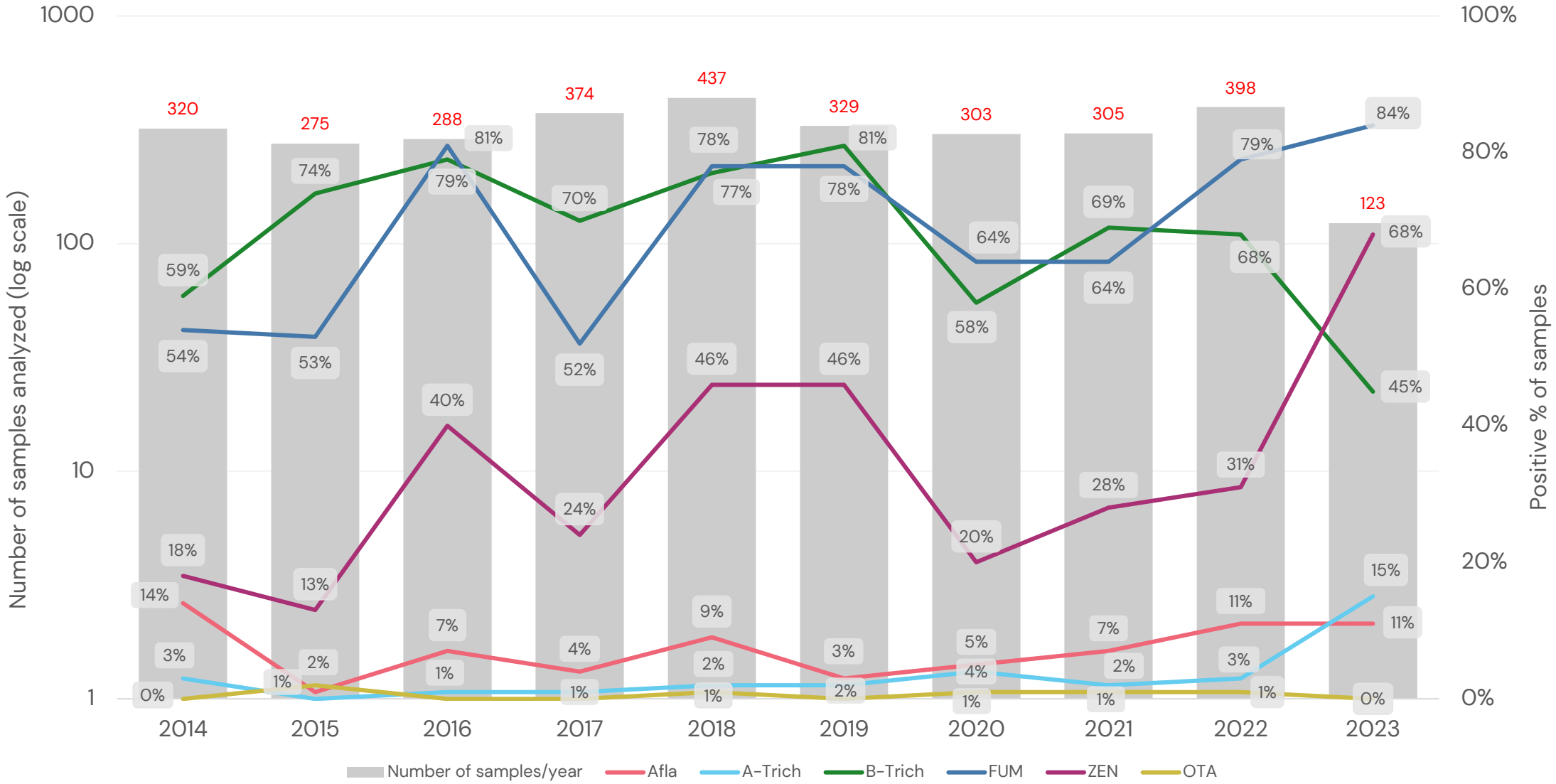
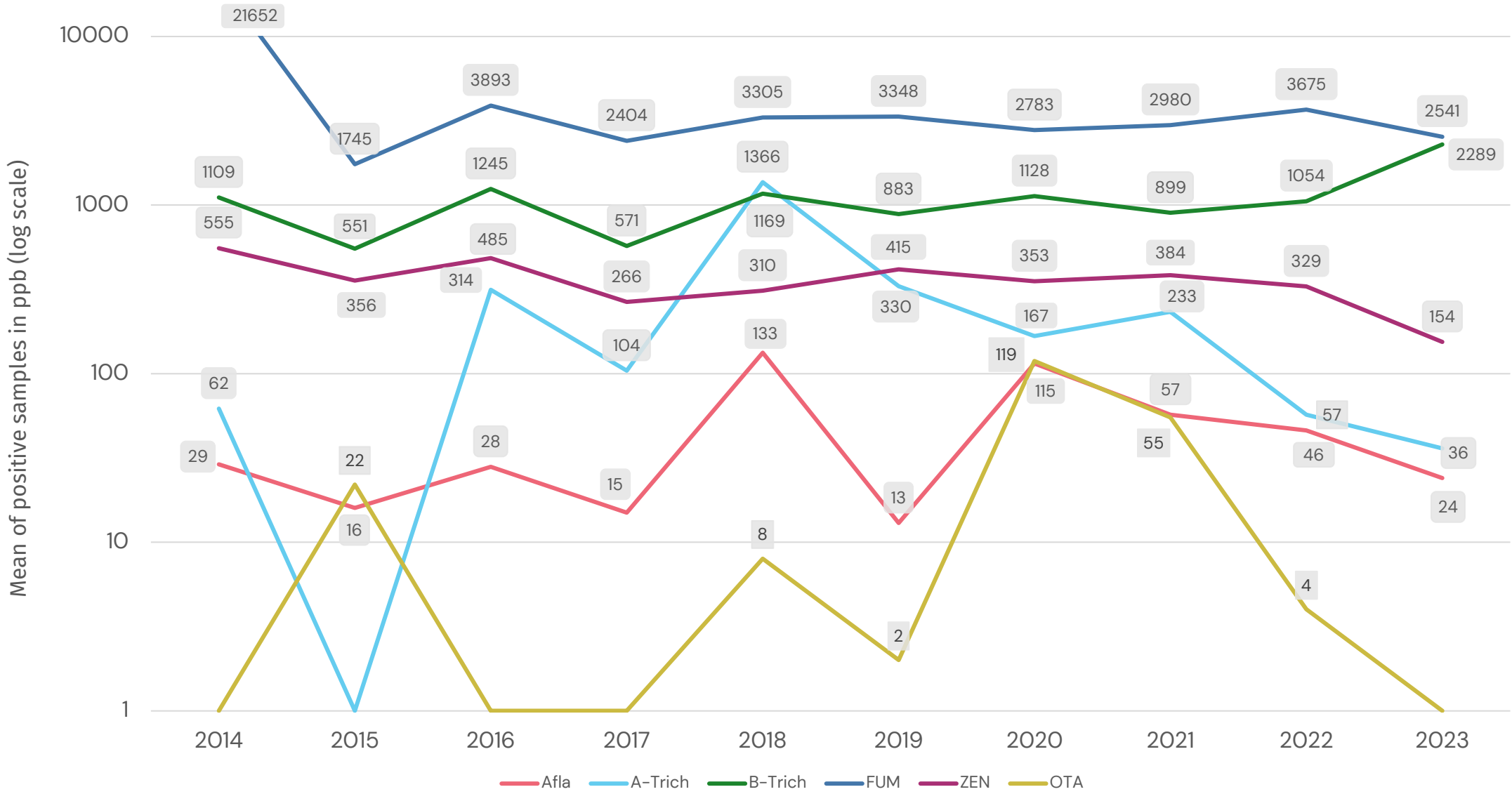
Occurrence Trend in 2023 US Corn



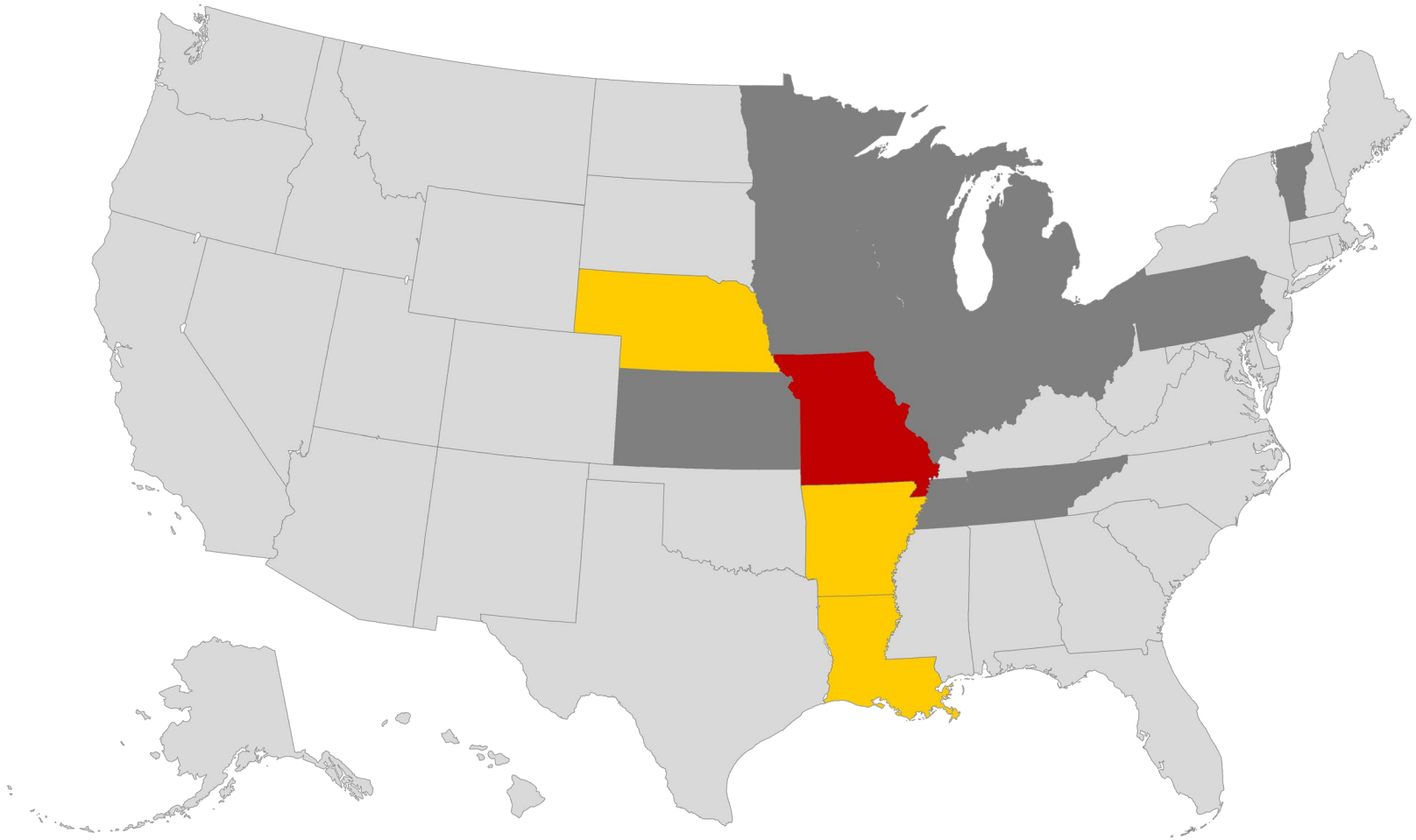
Based on the samples analyzed.

Mean of Positives Trend in 2023 US Corn



Based on the samples analyzed.

2023 Corn Risk by State – Aflatoxins

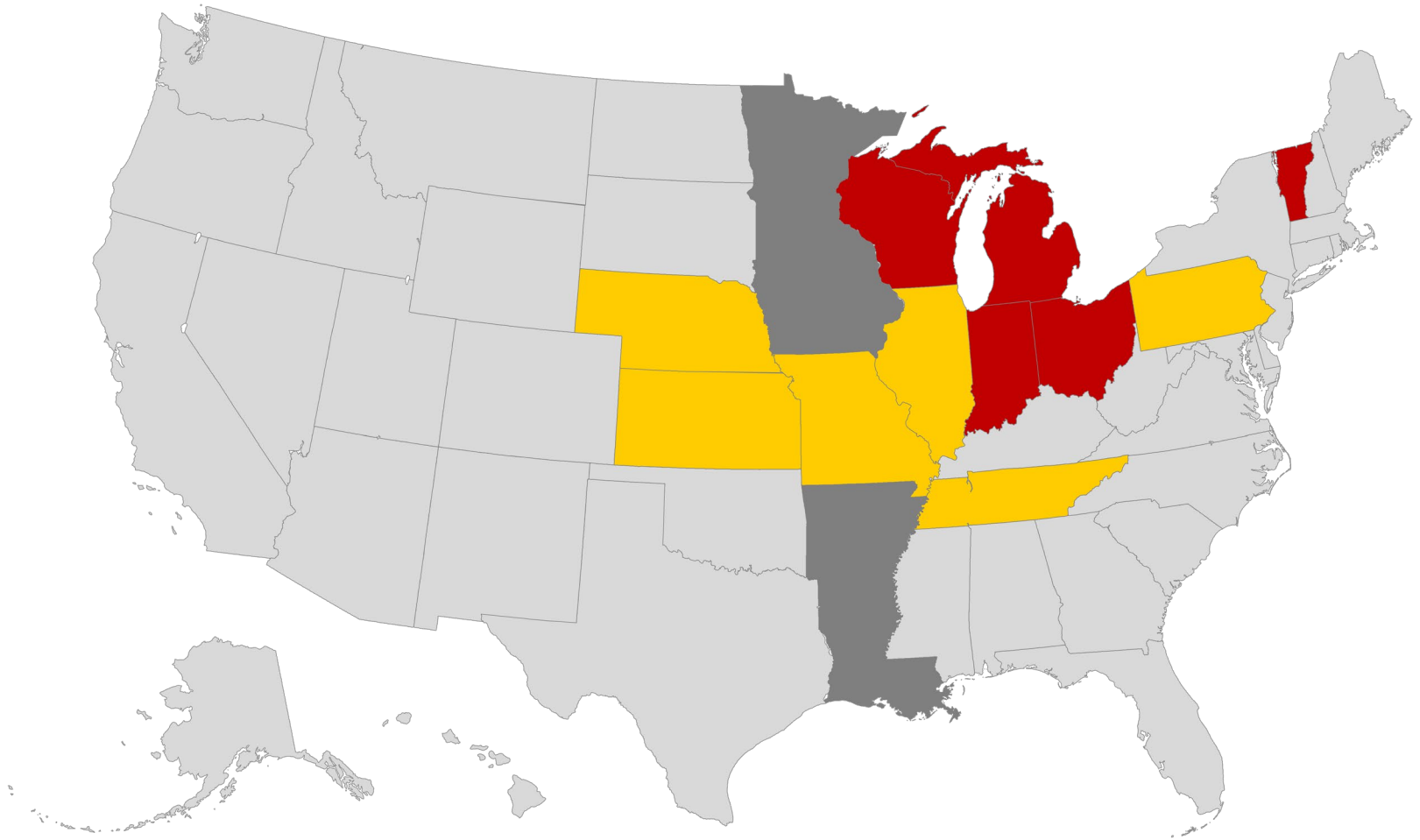


State with average > 20 ppb
State with average < 20 ppb
State with samples < LOD (0.2 ppb)
No sample submitted

State	Number of Samples	% Positive Samples	Avg of Positive Samples
MO	28	29	35
LA	6	33	14
AR	16	19	11
NE	19	5	0.3
IA	8	0	0
IL	2	0	0
IN	9	0	0
KS	3	0	0
MI	1	0	0
MN	3	0	0
OH	16	0	0
PA	2	0	0
TN	3	0	0
VT	1	0	0
WI	6	0	0

Based on the samples analyzed.

2023 Corn Risk by State – Type B Trichothecenes

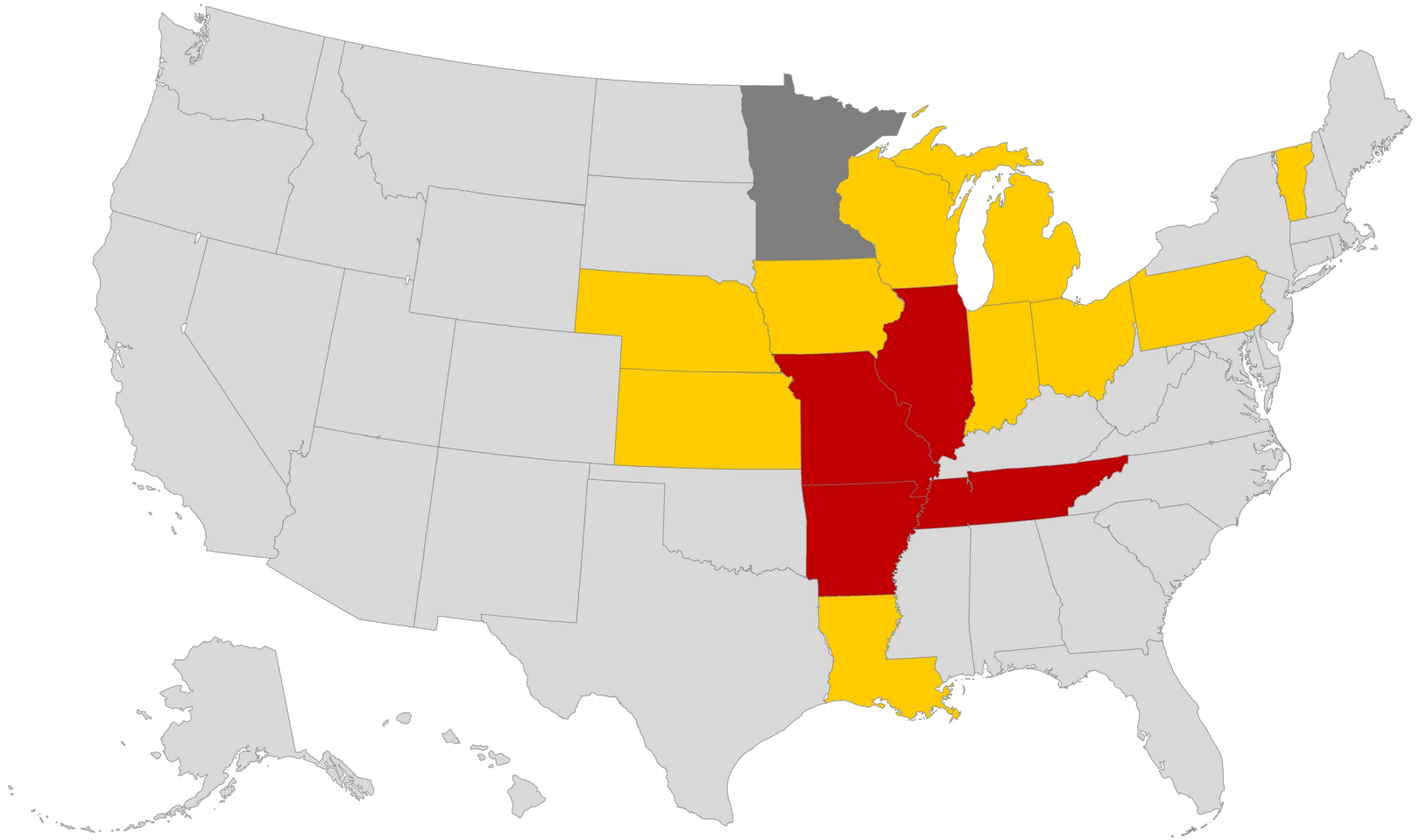


State with average > 1,000 ppb
State with average < 1,000 ppb
State with samples < LOD (105.0 ppb)
No sample submitted

State	Number of Samples	% Positive Samples	Avg of Positive Samples
OH	16	100	5103
MI	1	100	3069
IN	9	100	2548
VT	1	100	2189
WI	6	83	2033
PA	2	100	694
MO	28	25	292
IL	2	50	175
KS	3	33	175
NE	19	53	175
TN	3	67	175
AR	16	0	0
IA	8	0	0
LA	6	0	0
MN	3	0	0

Based on the samples analyzed in this region.

2023 Corn Risk by State - Fumonisins

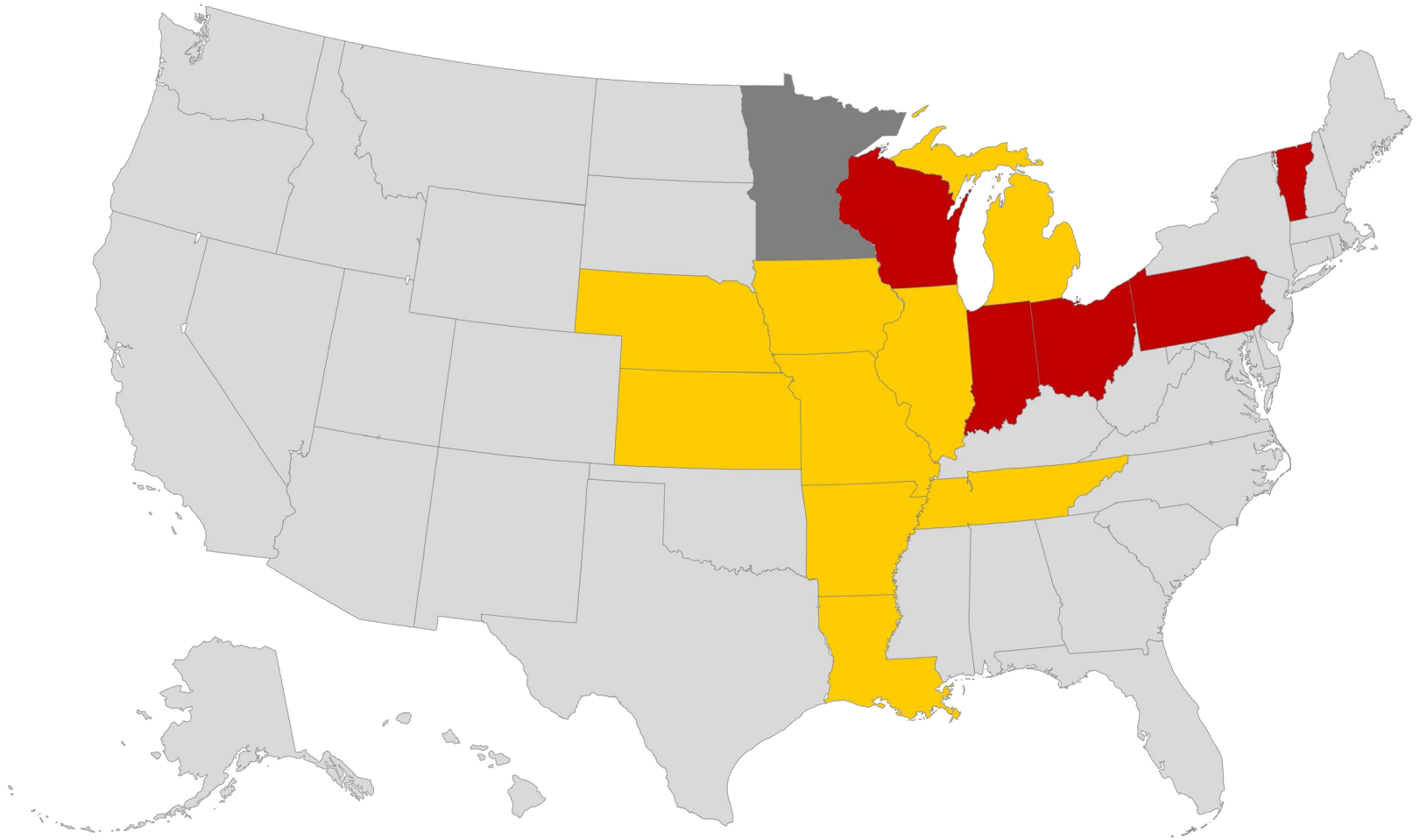


State with average > 2,000 ppb
State with average < 2,000 ppb
State with samples < LOD (50.0 ppb)
No sample submitted

State	Number of Samples	% Positive Samples	Avg of Positive Samples
MO	28	96	5593
IL	2	100	3806
TN	3	100	3373
AR	16	88	3040
LA	6	100	1577
NE	19	100	1192
KS	3	100	1032
OH	16	63	781
VT	1	100	698
IN	9	89	517
MI	1	100	516
WI	6	67	259
IA	8	50	243
PA	2	50	80
MN	3	0	0

Based on the samples analyzed in this region.

2023 Corn Risk by State – Zearalenone

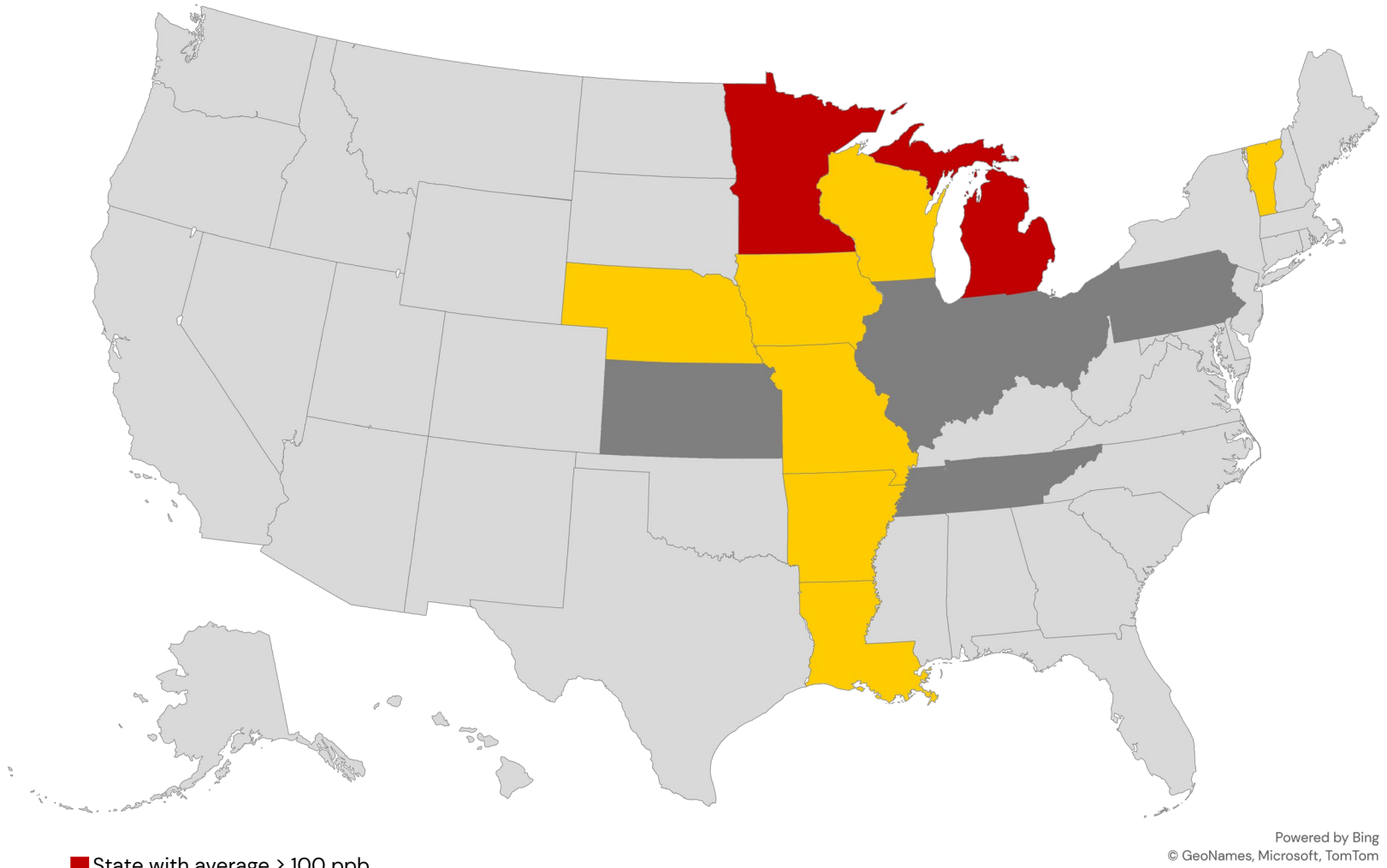


State with average > 100 ppb
State with average < 100 ppb
State with samples < LOD (1.0 ppb)
No sample submitted

State	Number of Samples	% Positive Samples	Avg of Positive Samples
VT	1	100	951
PA	2	100	662
OH	16	100	440
IN	9	100	232
WI	6	100	138
MI	1	100	60
KS	3	100	24
MO	28	61	17
TN	3	100	17
NE	19	74	11
IA	8	38	8
IL	2	100	6
AR	16	6	3
LA	6	100	3
MN	3	0	0

Based on the samples analyzed in this region.

2023 Corn Risk by State – Type A Trichothecenes



State with average > 100 ppb
State with average < 100 ppb
State with samples < LOD (5.0 ppb)
No sample submitted

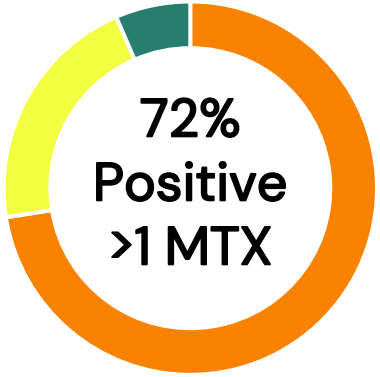
State	Number of Samples	% Positive Samples	Avg of Positive Samples
MN	3	33	192
MI	1	100	139
VT	1	100	41
MO	28	21	25
WI	6	67	22
AR	16	13	16
IA	8	25	11
LA	6	17	8
NE	19	5	8
IL	2	0	0
IN	9	0	0
KS	3	0	0
OH	16	0	0
PA	2	0	0
TN	3	0	0

Based on the samples analyzed in this region.

Mycotoxin Survey Summary – 2023 US Corn

123 corn samples submitted from 15 states

vs. 92% in 2022



vs. 69% in 2022

vs. 2022

B-Trich	• 45% positive / ↓ from 68% • 2289 ppb / ↑ from 1054 ppb
FUM	• 84% positive / ↑ from 79% • 2541 ppb / ↓ from 3675 ppb
ZEN	• 68% positive / ↑ from 31% • 154 ppb / ↓ from 329 ppb

- Potential effect of lower limits of detection (LOD) for samples screened using Romer Labs PLUS Method
  - Increased occurrence
  - Lower means
  - Greatest impacts observed so far:
    - ZEN
    - A-Trich

*Based on the samples analyzed.

Questions?

Thank you!

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