

Mycotoxin Occurrence in 2022 US Corn Grain



APRIL 2023

MYCOTOXIN *monthly*



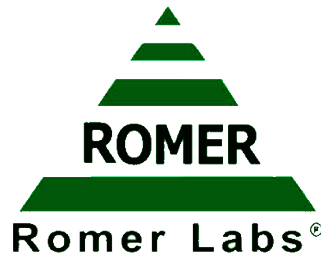
DSM

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Mycotoxins & Analysis



LC-MS/MS



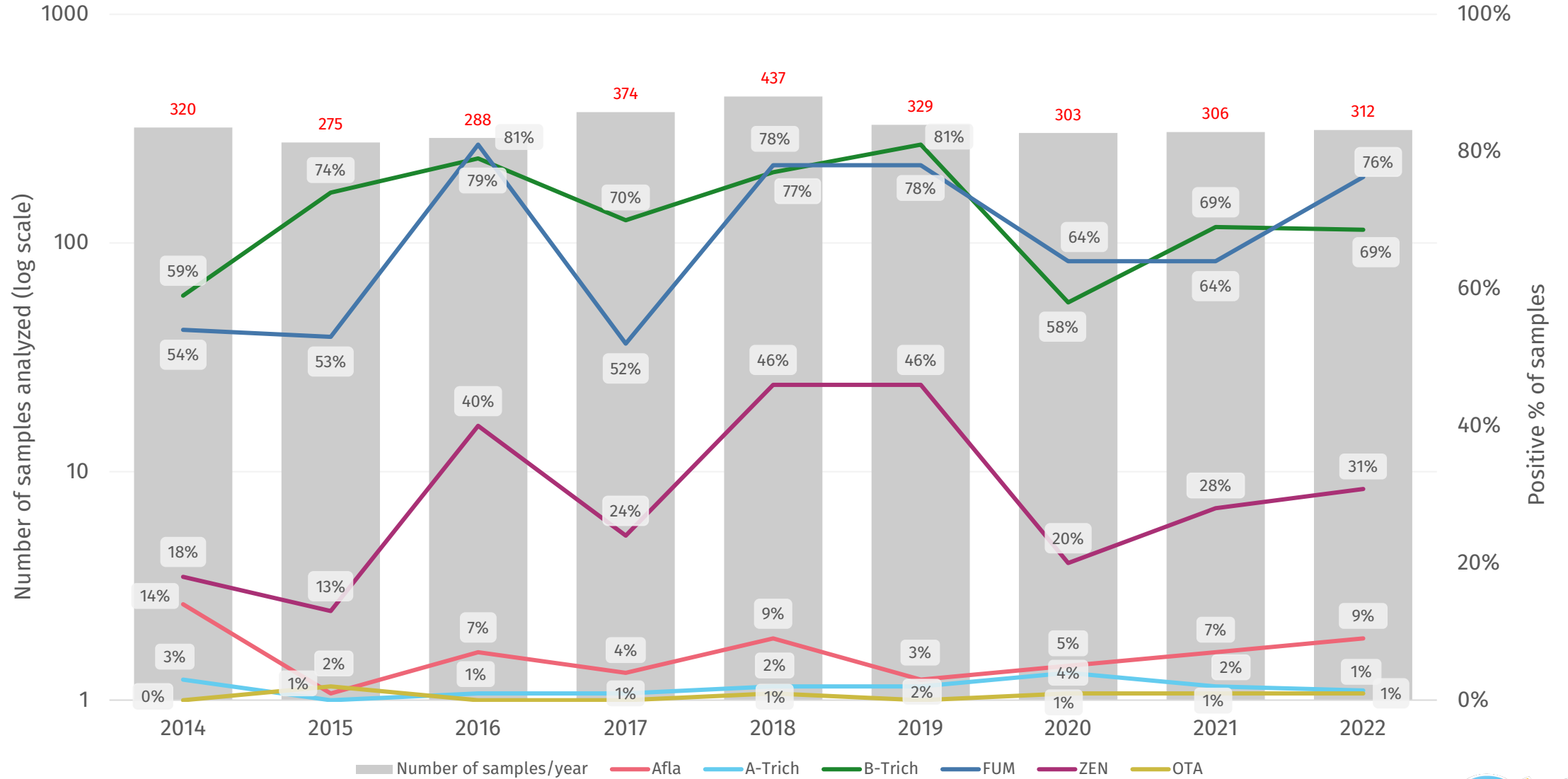
The survey results represent samples sent in for surveillance testing only and does not include any sample submitted following clinical signs.

Mycotoxin Group*	Mycotoxins	Limit of Detection (ppb)
Aflatoxins (Afla)	Aflatoxin B1	1.3
	Aflatoxin B2	1.2
	Aflatoxin G1	1.1
	Aflatoxin G2	1.6
A-Trichothecenes (A-Trich)	T-2 Toxin	100.0
	HT-2 Toxin	100.0
	Neosolaniol	100.0
	Diacetoxyscirpenol (DAS)	100.0
B-Trichothecenes (B-Trich)	Deoxynivalenol (DON/Vomitoxin)	100.0
	Acetyl-deoxynivalenol (AcDON)	100.0
	Nivalenol (NIV)	100.0
	Fusarenon X (FusX)	100.0
Fumonisin (FUM)	Fumonisin B1	100.0
	Fumonisin B2	100.0
	Fumonisin B3	100.0
Zearalenone (ZEN)	Zearalenone (ZEN)	51.7
Ochratoxin A (OTA)	Ochratoxin A (OTA)	1.1

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

2022 US Corn (as-fed basis)

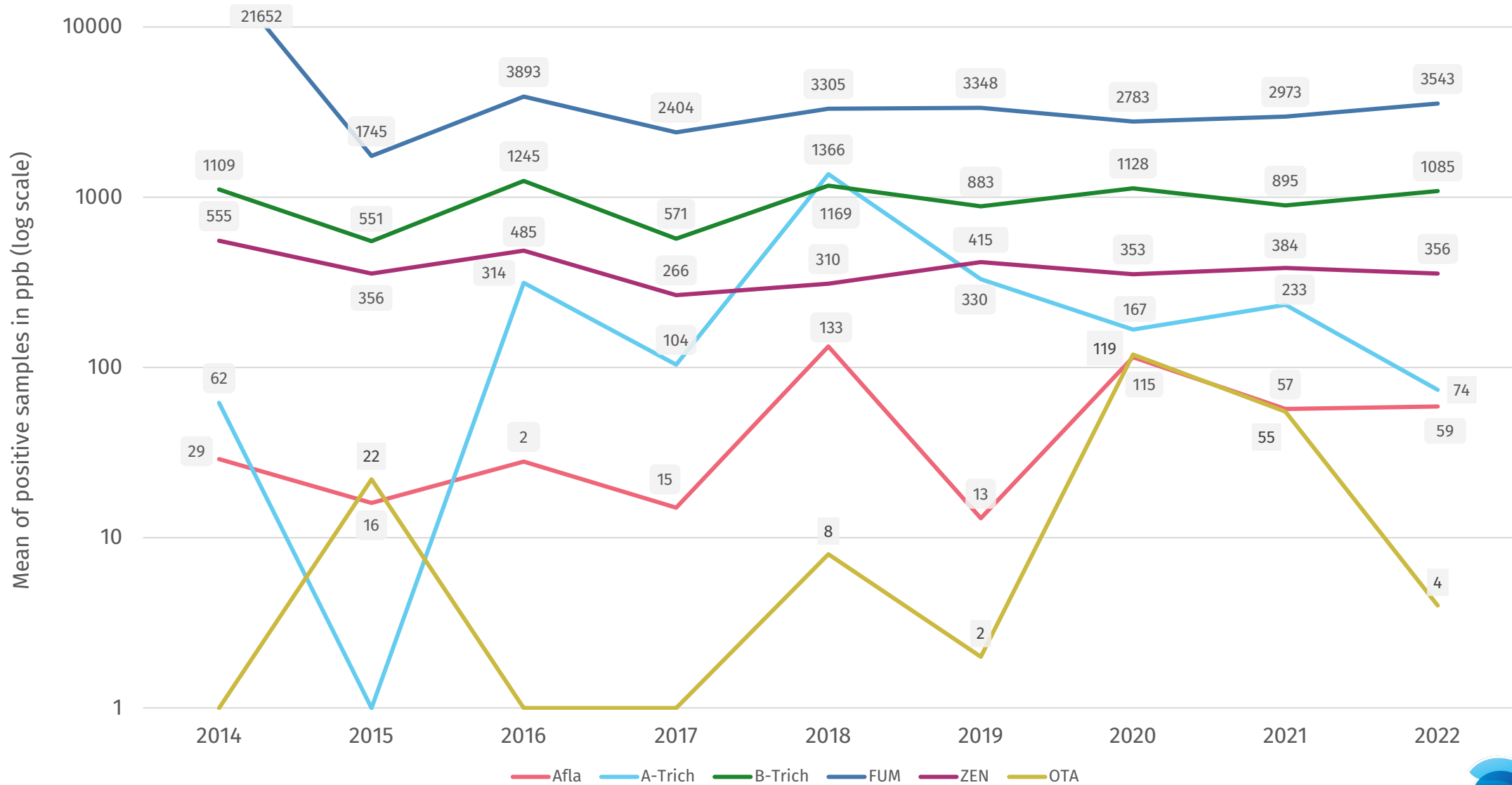
Occurrence Trend in 2022 US Corn



Based on the samples analyzed.



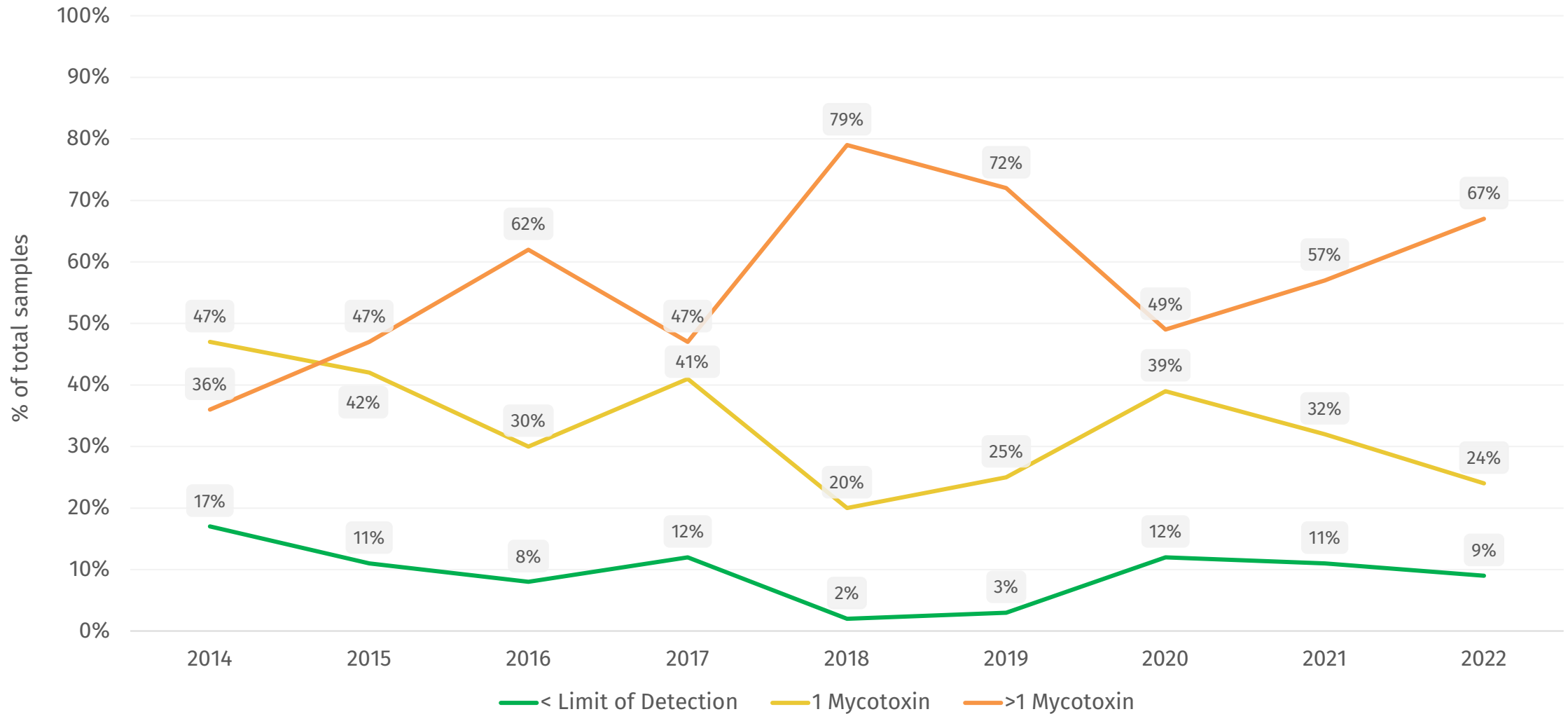
Mean of Positives Trend in 2022 US Corn



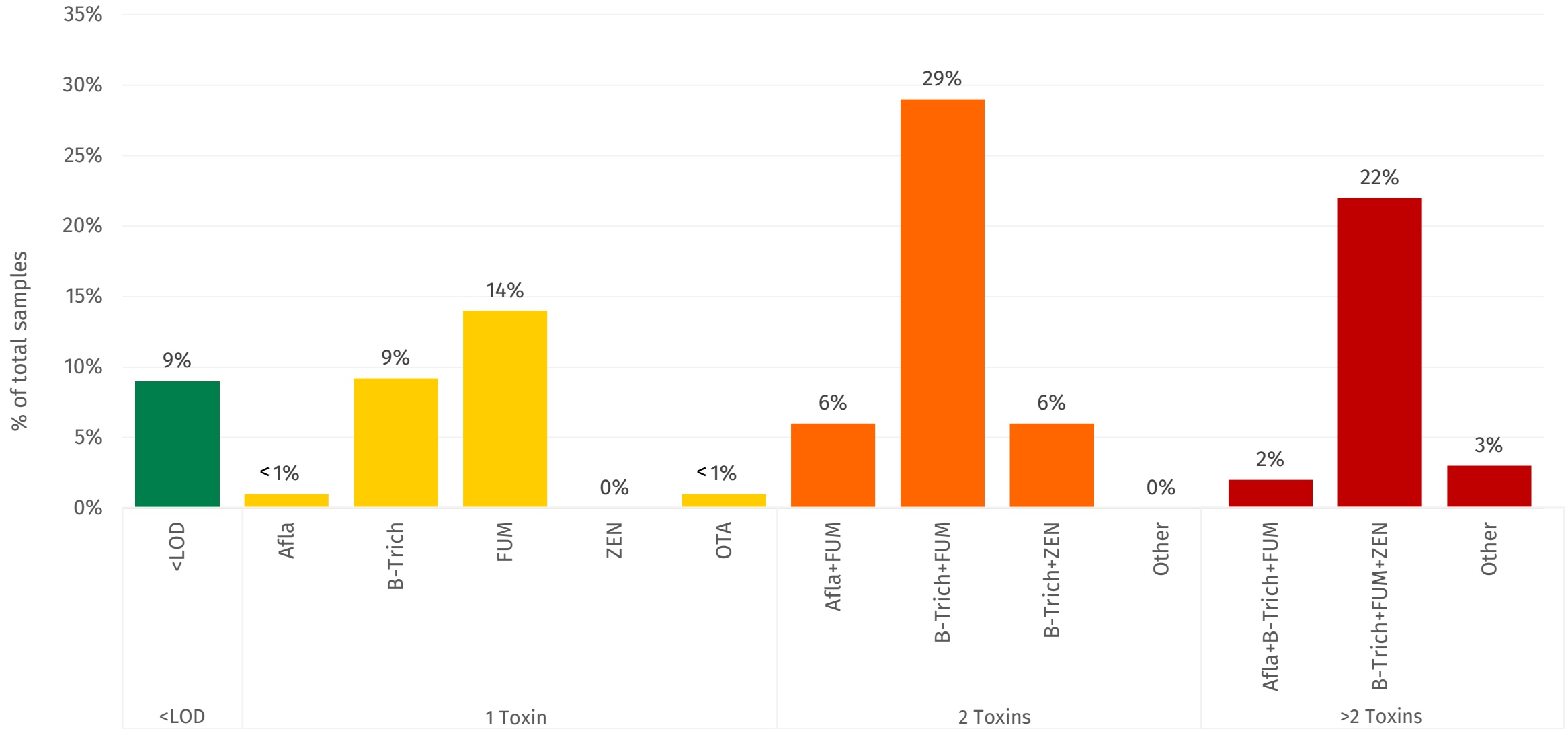
Based on the samples analyzed.



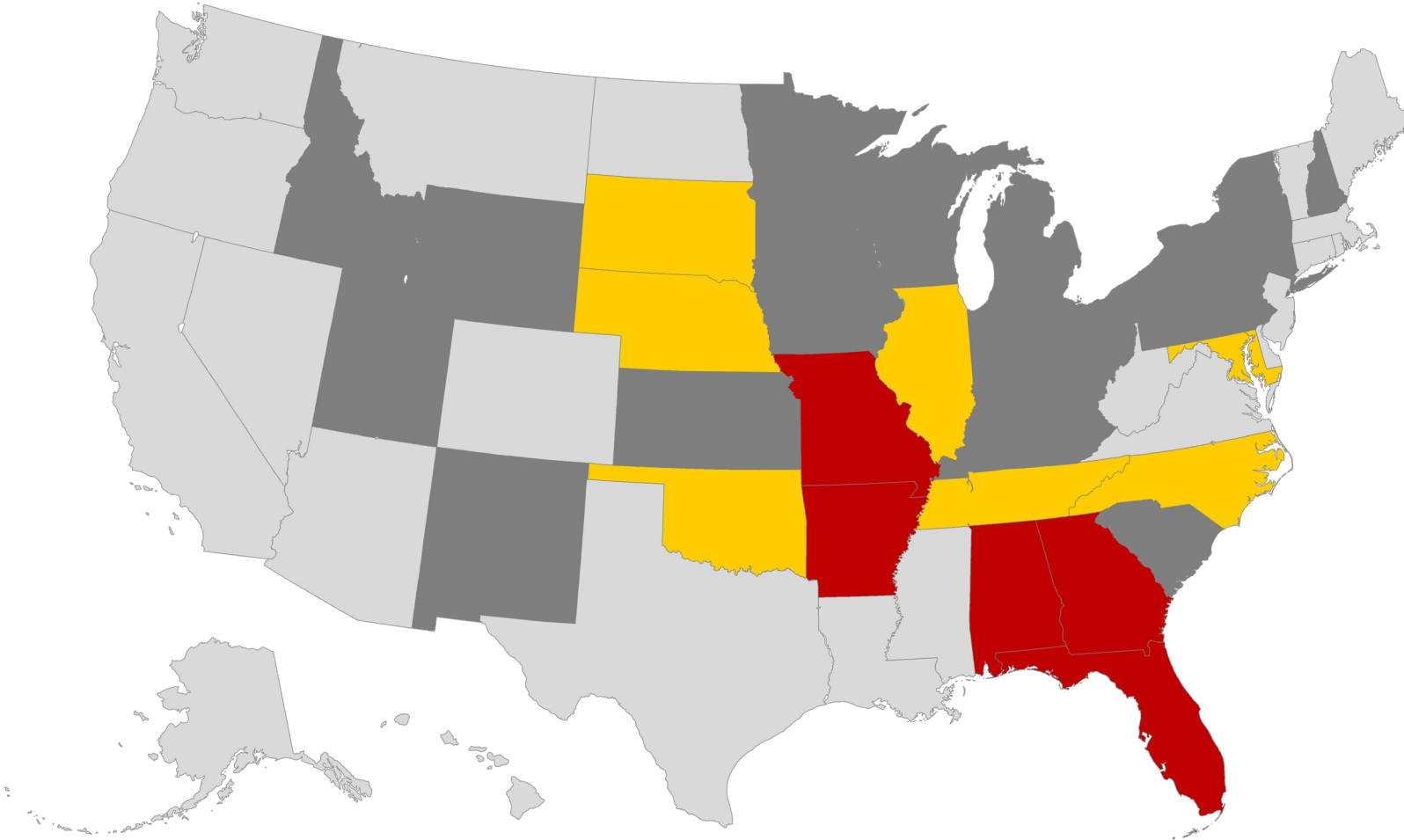
Co-occurrence Trend in 2022 US Corn



Co-occurrence Profile in 2022 US Corn



2022 Corn Risk by State – Afla



- State with average > 20 ppb
- State with average < 20 ppb
- State with samples < LOD (1 ppb)
- No sample submitted

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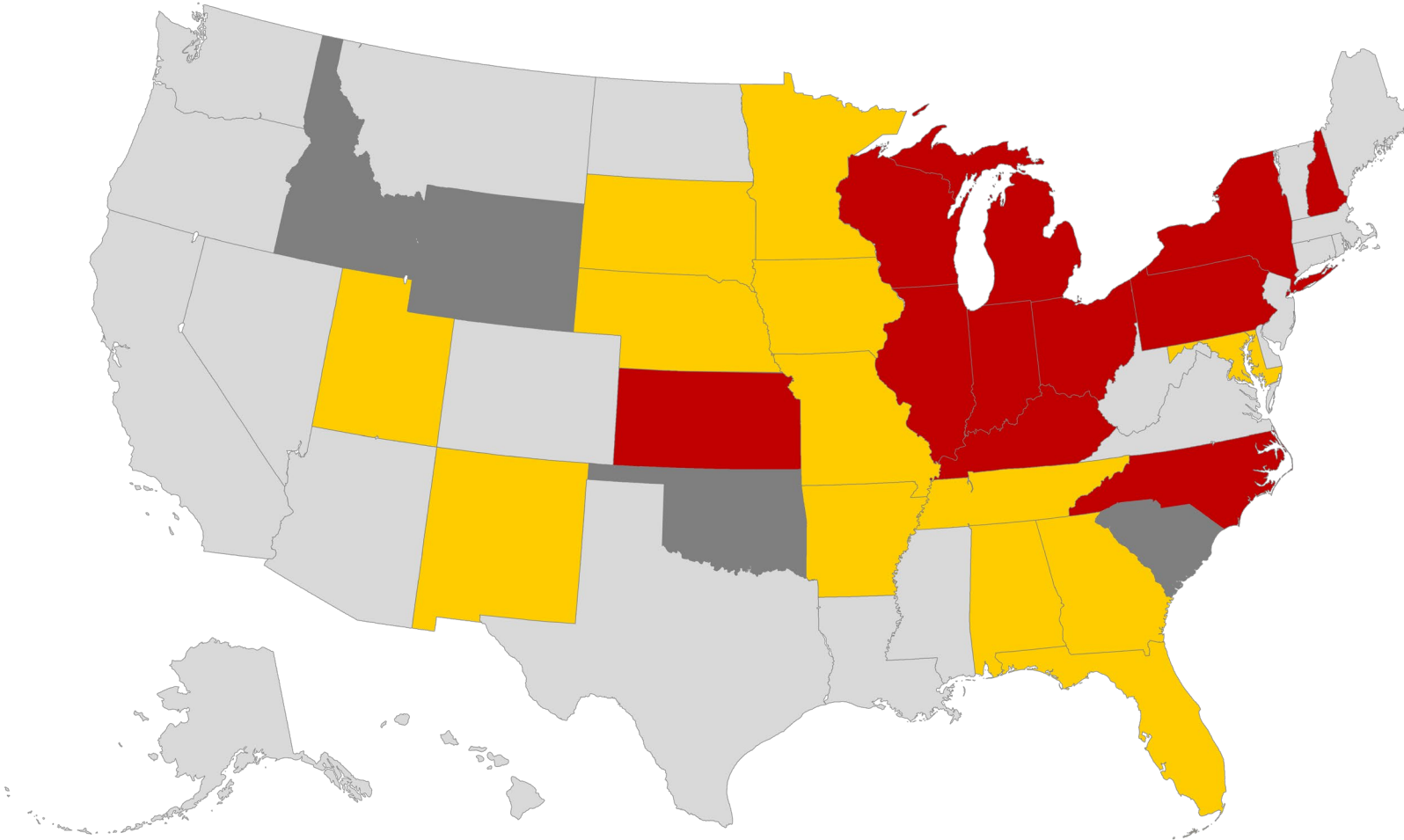
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State	Number of Samples	% Positive Samples	Avg of Positive Samples
AR	4	25	602
FL	13	8	327
AL	4	25	63
MO	18	11	58
GA	25	60	32
IL	31	6	17
TN	3	33	17
OK	1	100	9
NE	32	3	7
SD	15	7	5
MD	1	100	2
NC	4	25	2
IA	27	0	0
ID	1	0	0
IN	19	0	0
KS	5	0	0
KY	2	0	0
MI	9	0	0
MN	24	0	0
NH	1	0	0
NM	2	0	0
NY	3	0	0
OH	30	0	0
PA	3	0	0
SC	3	0	0
UT	1	0	0
WI	30	0	0
WY	1	0	0

Based on the samples analyzed in this region.



2022 Corn Risk by State – B-Trich



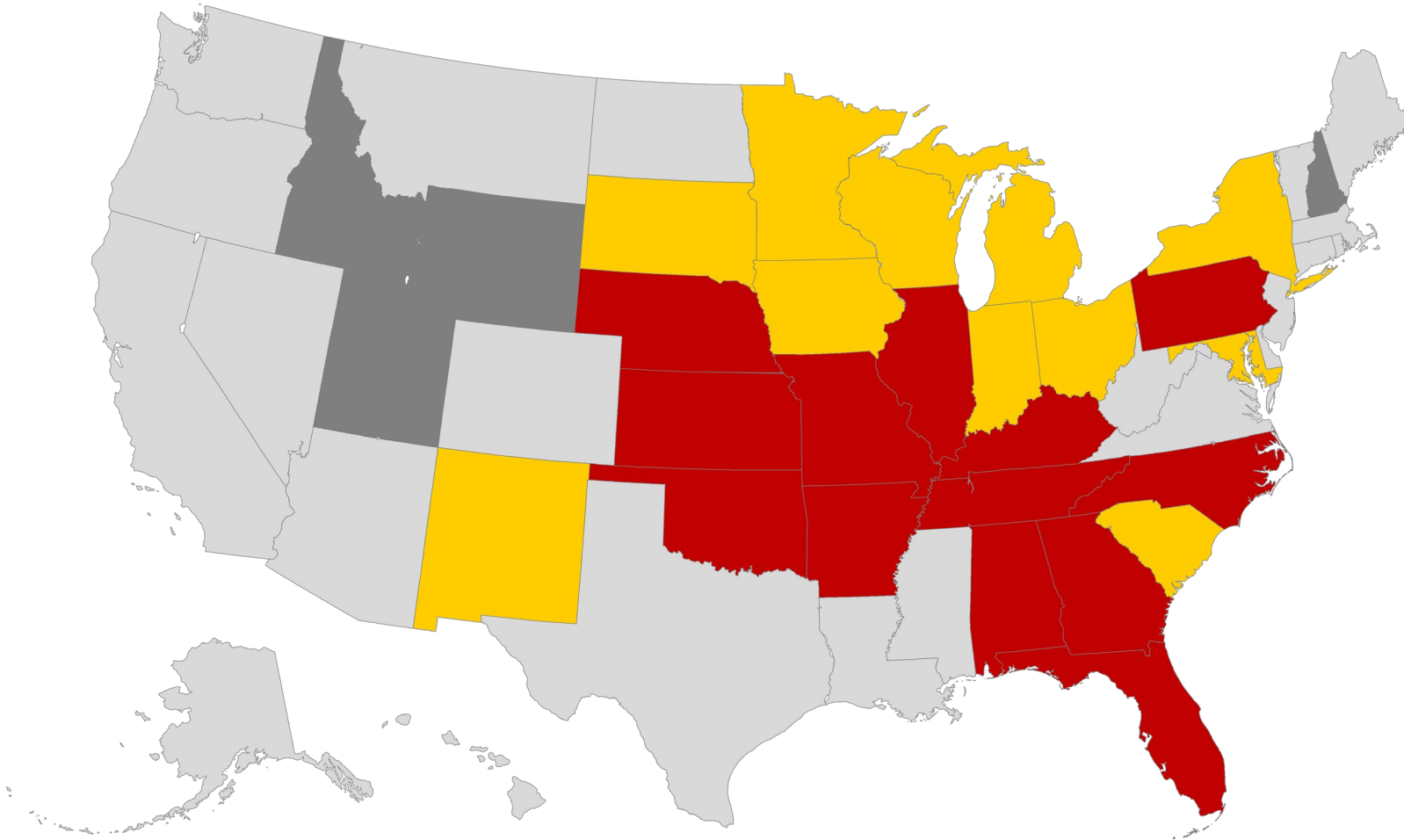
- State with average > 1000 ppb
- State with average < 1000 ppb
- State with samples < LOD (100 ppb)
- No sample submitted

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State	Number of Samples	% Positive Samples	Avg of Positive Samples
NH	1	100	3384
OH	30	100	2315
PA	3	100	2084
NC	4	100	2035
KS	5	20	1626
NY	3	100	1455
WI	30	87	1305
IN	19	89	1208
KY	2	100	1175
MI	9	89	1157
IL	31	100	1113
MD	1	100	924
FL	13	77	907
AL	4	75	803
TN	3	33	714
GA	25	44	490
NE	32	63	452
IA	27	67	275
AR	4	25	266
MN	24	54	264
NM	2	50	257
MO	18	39	252
SD	15	7	135
UT	1	100	119
ID	1	0	0
OK	1	0	0
SC	3	0	0
WY	1	0	0



2022 Corn Risk by State – FUM



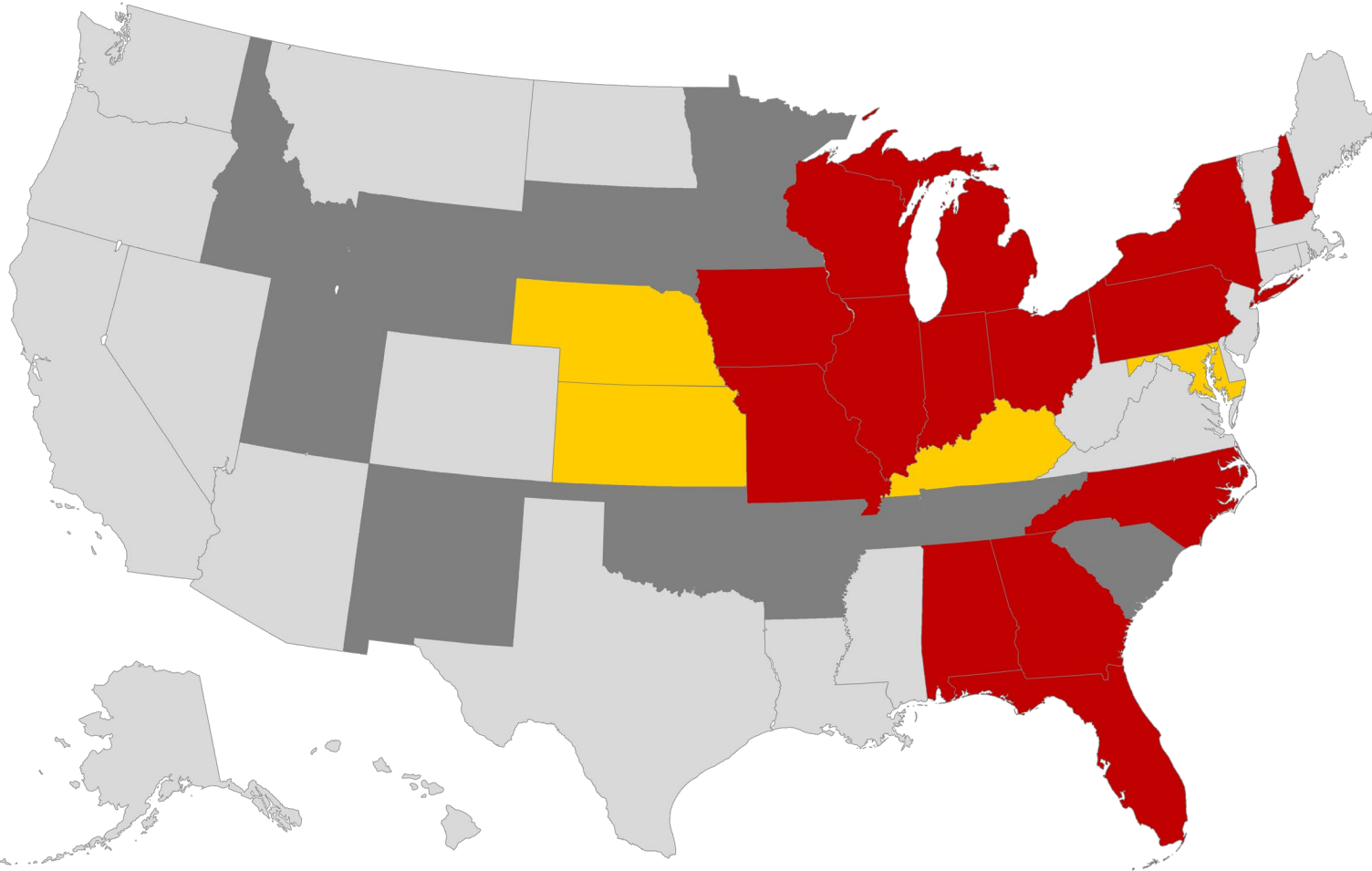
- State with average > 2000 ppb
- State with average < 2000 ppb
- State with samples < LOD (100 ppb)
- No sample submitted

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State	Number of Samples	% Positive Samples	Avg of Positive Samples
KY	2	100	18300
TN	3	100	12033
MO	18	94	11547
AL	4	100	10675
NC	4	100	7325
IL	31	94	6138
OK	1	100	4700
GA	25	100	3948
PA	3	100	3700
AR	4	100	2750
NE	32	94	2690
KS	5	100	2560
FL	13	100	2031
NM	2	100	1650
IN	19	68	1531
SC	3	100	1367
IA	27	74	995
MD	1	100	800
MI	9	100	733
OH	30	60	729
NY	3	100	433
WI	30	50	413
MN	24	42	280
SD	15	27	225
ID	1	0	0
NH	1	0	0
UT	1	0	0
WY	1	0	0



2022 Corn Risk by State – ZEN



- State with average > 100 ppb
- State with average < 100 ppb
- State with samples < LOD (51.7 ppb)
- No sample submitted

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State	Number of Samples	% Positive Samples	Avg of Positive Samples
IN	19	32	685
GA	25	20	600
IL	31	65	525
NH	1	100	514
NC	4	75	465
OH	30	60	405
MI	9	22	333
NY	3	100	275
AL	4	75	253
MO	18	6	214
PA	3	33	206
IA	27	7	179
FL	13	38	167
WI	30	63	158
KY	2	50	89
NE	32	13	79
KS	5	20	57
MD	1	100	53
AR	4	0	0
ID	1	0	0
MN	24	0	0
NM	2	0	0
OK	1	0	0
SC	3	0	0
SD	15	0	0
TN	3	0	0
UT	1	0	0
WY	1	0	0



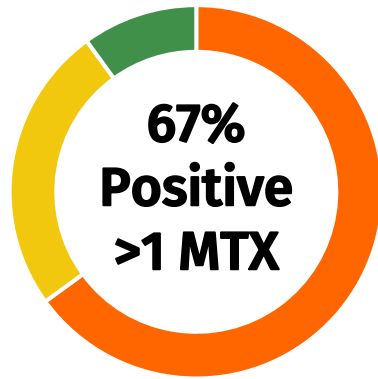
Mycotoxin Survey Summary – 2022 US Corn



312 corn samples submitted from 28 states



vs. 89% in 2021



vs. 57% in 2021

vs. 2021

B-Trich

- 69% positive / ↔ from 69%
- 1085 ppb / ↑ from 895 ppb

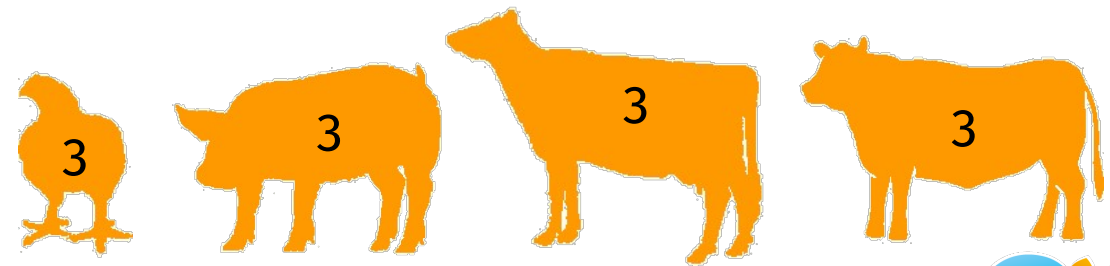
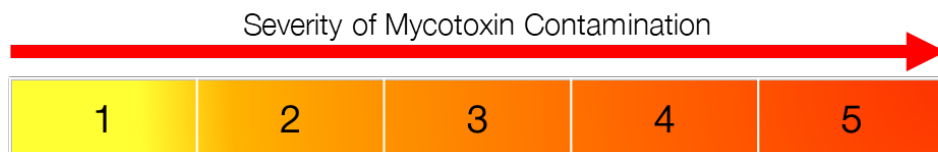
FUM

- 76% positive / ↑ from 64%
- 3543 ppb / ↑ from 2973 ppb

ZEN

- 31% positive / ↑ from 28%
- 356 ppb / ↓ from 384 ppb

Forecasted potential risk for livestock production*:



*Based on the samples analyzed.



Questions?



Thank you!

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