

Mycotoxin Occurrence in 2022 US Corn Grain



JANUARY 2023

MYCOTOXIN *monthly*



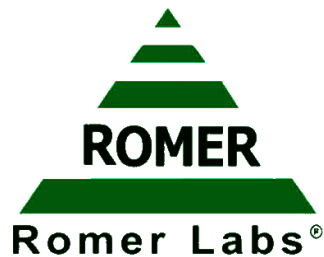
DSM

BRIGHT SCIENCE. BRIGHTER LIVING.

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.

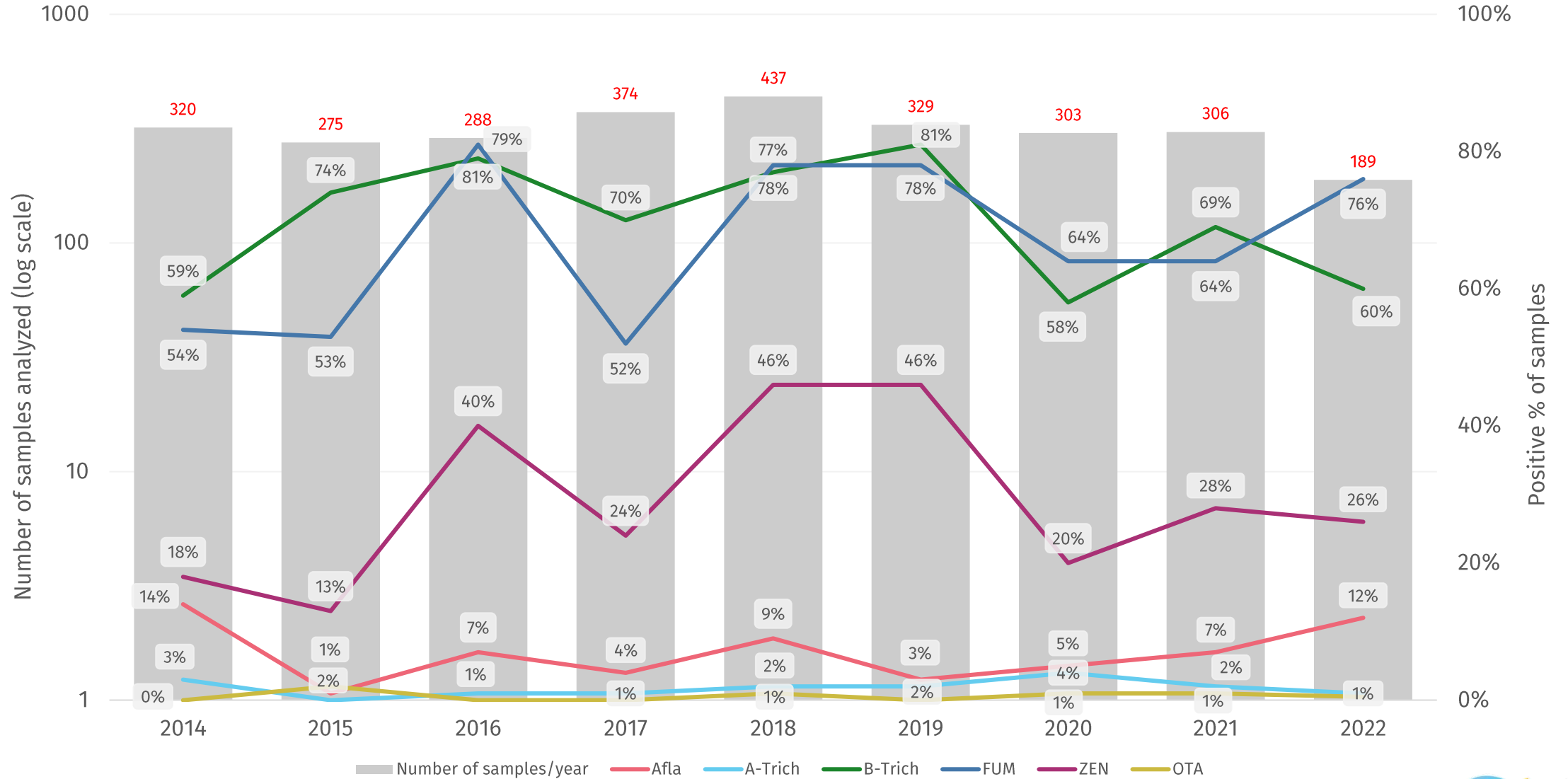
Mycotoxin Group*	Mycotoxins	Limit of Detection (ppb)
Aflatoxins (Afla)	Aflatoxin B1	1.3
	Aflatoxin B2	1.2
	Aflatoxin G1	1.1
	Aflatoxin G2	1.6
A-Trichothecenes (A-Trich)	T-2 Toxin	100.0
	HT-2 Toxin	100.0
	Neosolaniol	100.0
	Diacetoxyscirpenol (DAS)	100.0
B-Trichothecenes (B-Trich)	Deoxynivalenol (DON/Vomitoxin)	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)

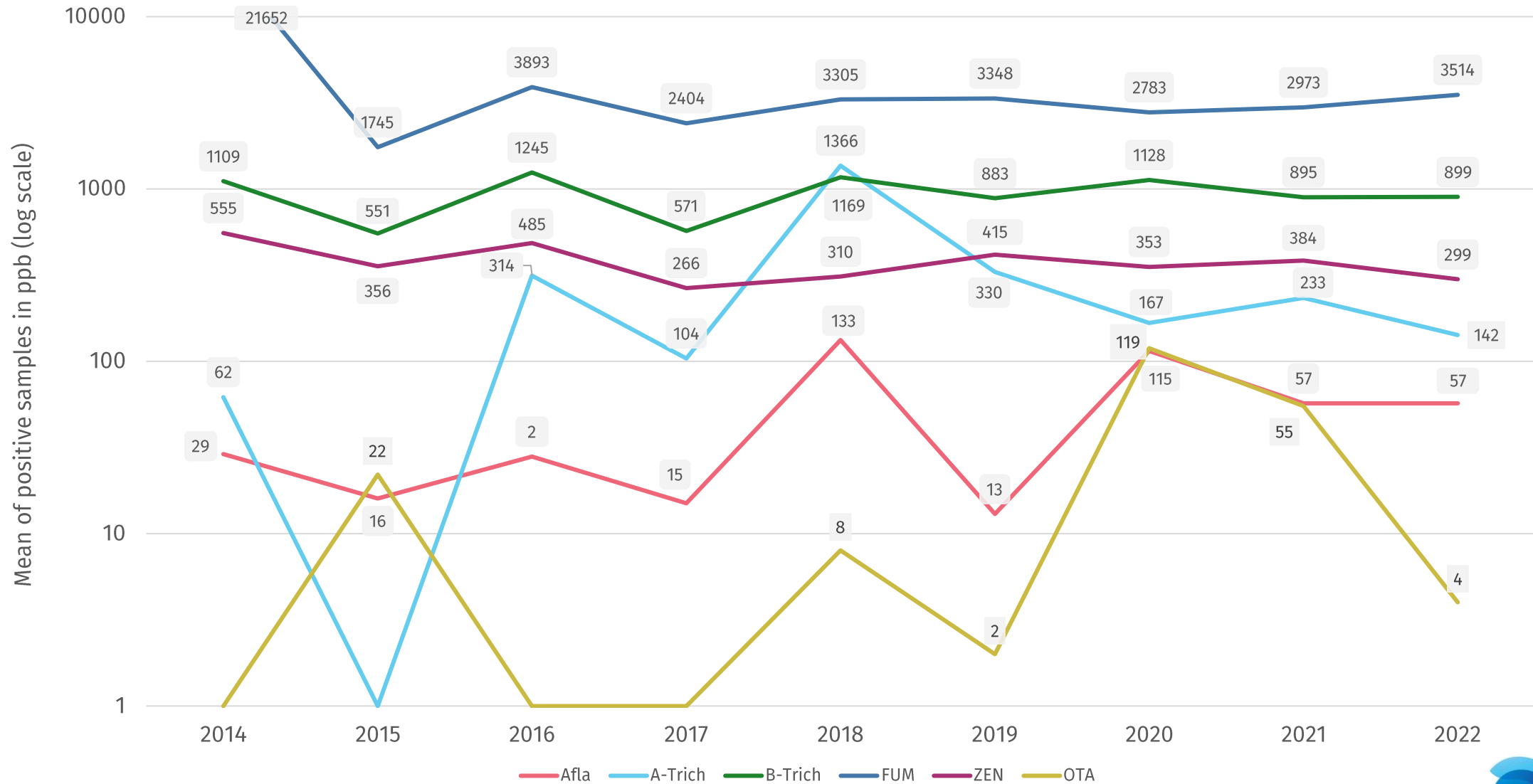


2022 US Corn (as-fed basis)

Occurrence Trend in 2022 US Corn



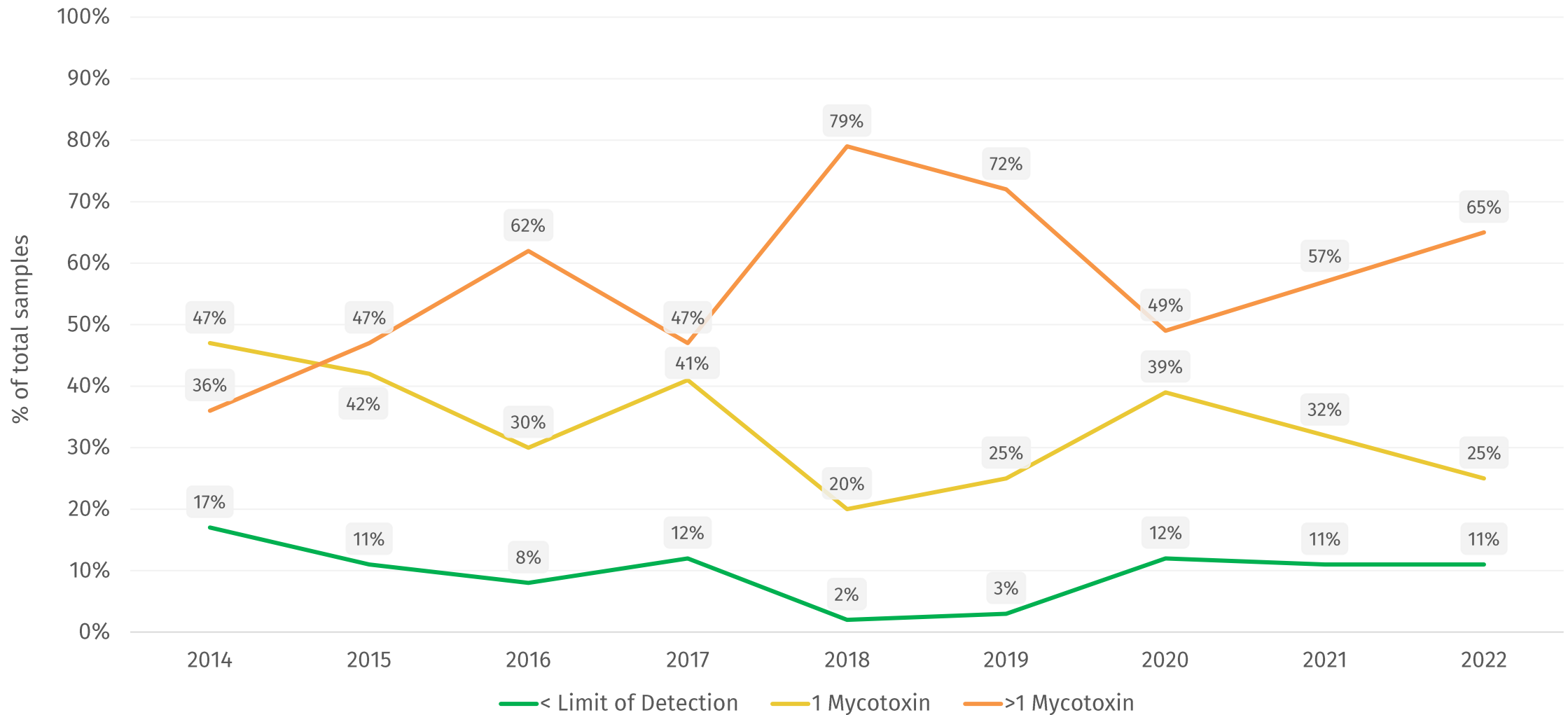
Mean of Positives Trend in 2022 US Corn



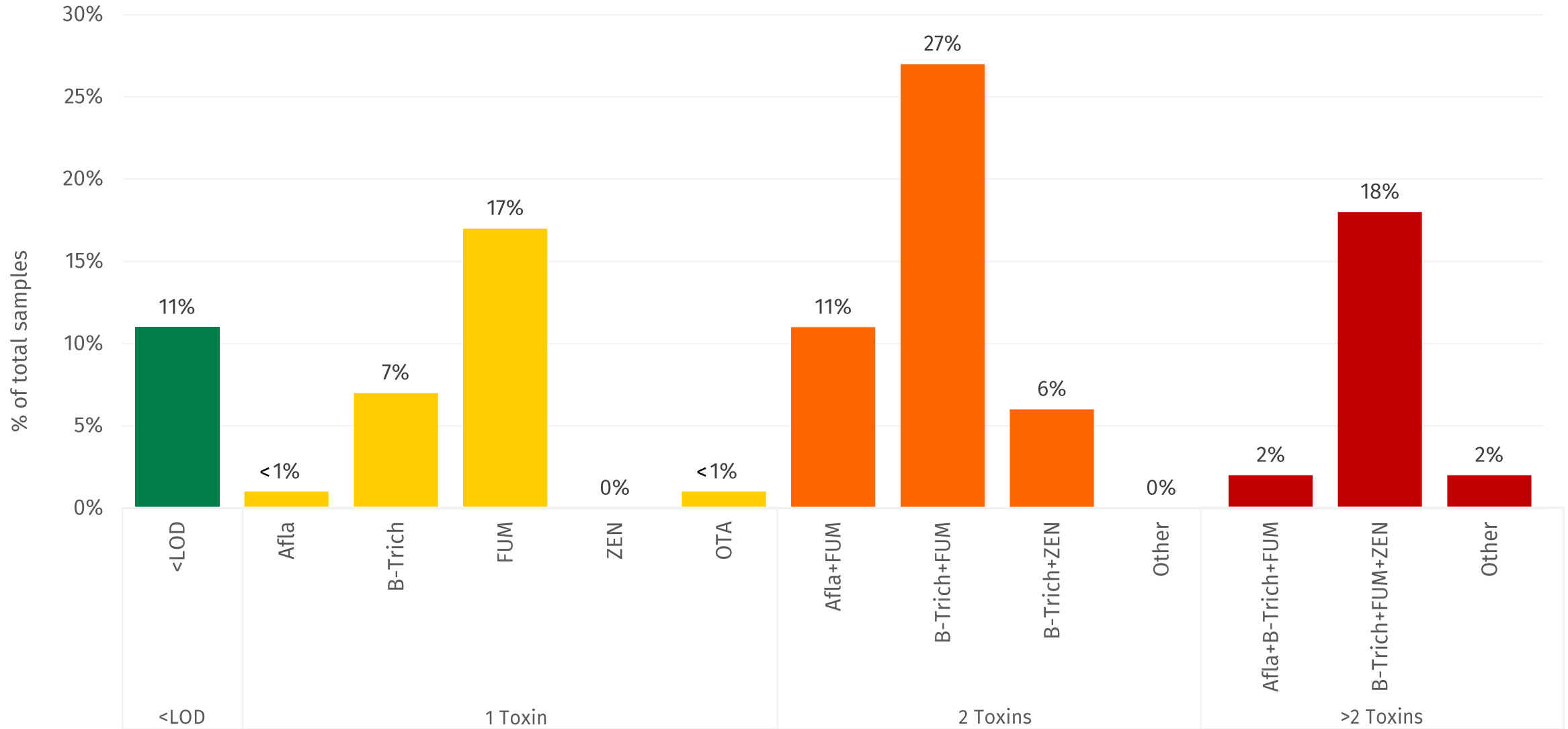
Based on the samples analyzed.



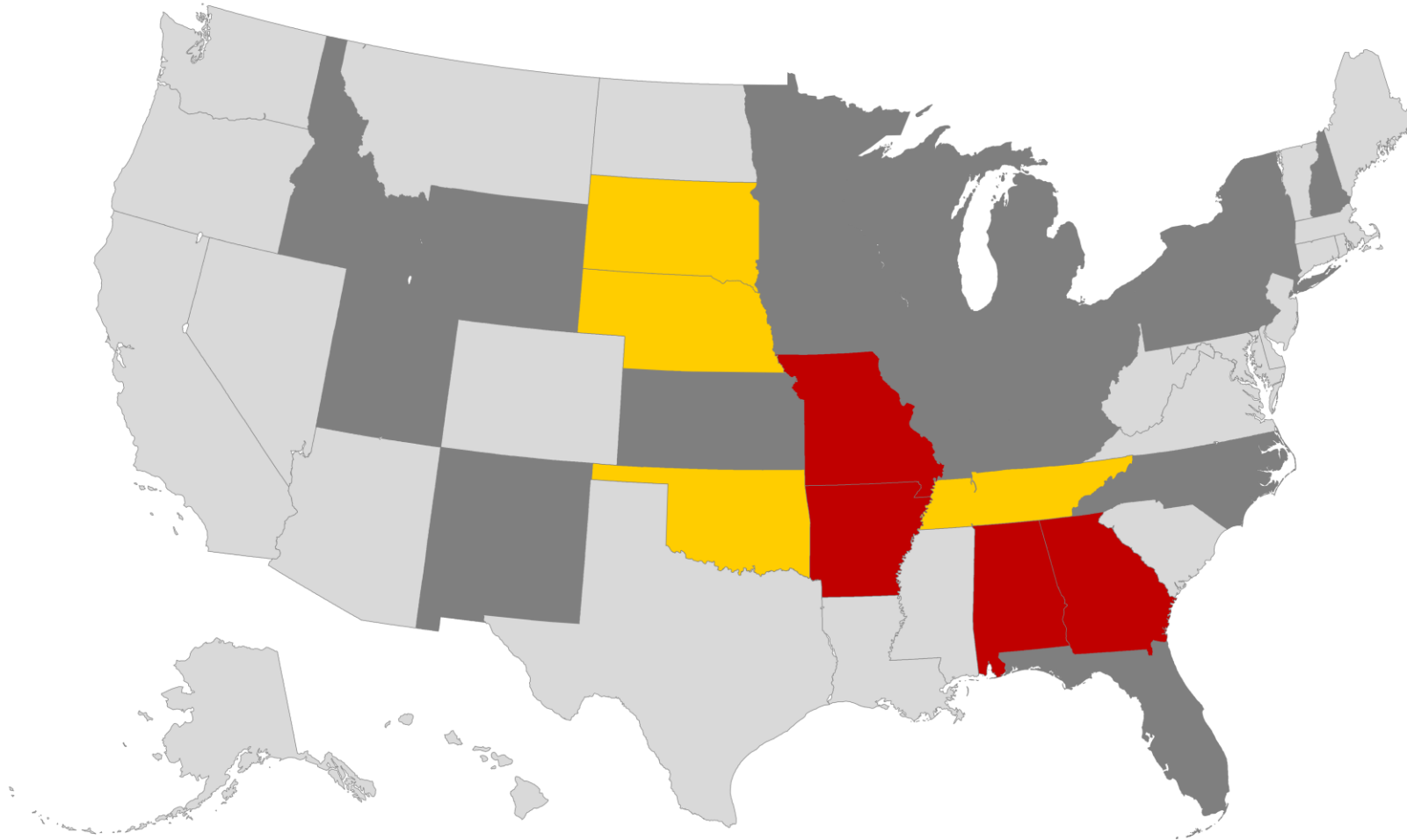
Co-occurrence Trend in 2022 US Corn



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

8

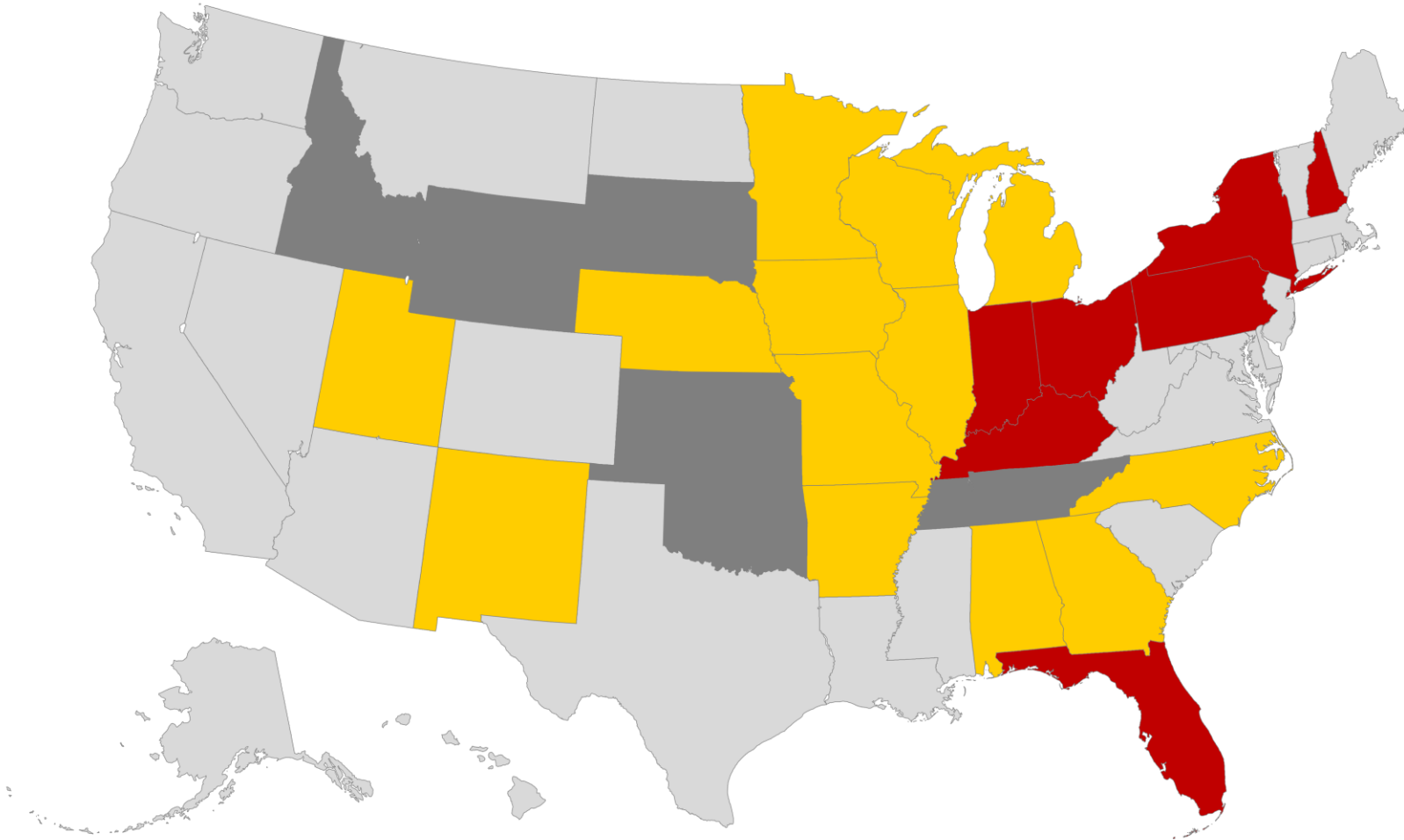
Powered by Bing
© GeoNames, Microsoft, TomTom

State	Number of Samples	% Positive Samples	Avg of Positive Samples
AR	3	33	602
AL	4	25	63
MO	15	13	58
GA	15	100	32
TN	2	50	17
OK	1	100	9
NE	27	4	7
SD	5	20	5
FL	2	0	0
IA	19	0	0
ID	1	0	0
IL	4	0	0
IN	18	0	0
KS	4	0	0
KY	2	0	0
MI	5	0	0
MN	14	0	0
NC	2	0	0
NH	1	0	0
NM	2	0	0
NY	3	0	0
OH	21	0	0
PA	1	0	0
UT	1	0	0
WI	16	0	0
WY	1	0	0

Based on the samples analyzed in this region.



2022 Corn Risk by State – B-Trich



Powered by Bing
© GeoNames, Microsoft, TomTom

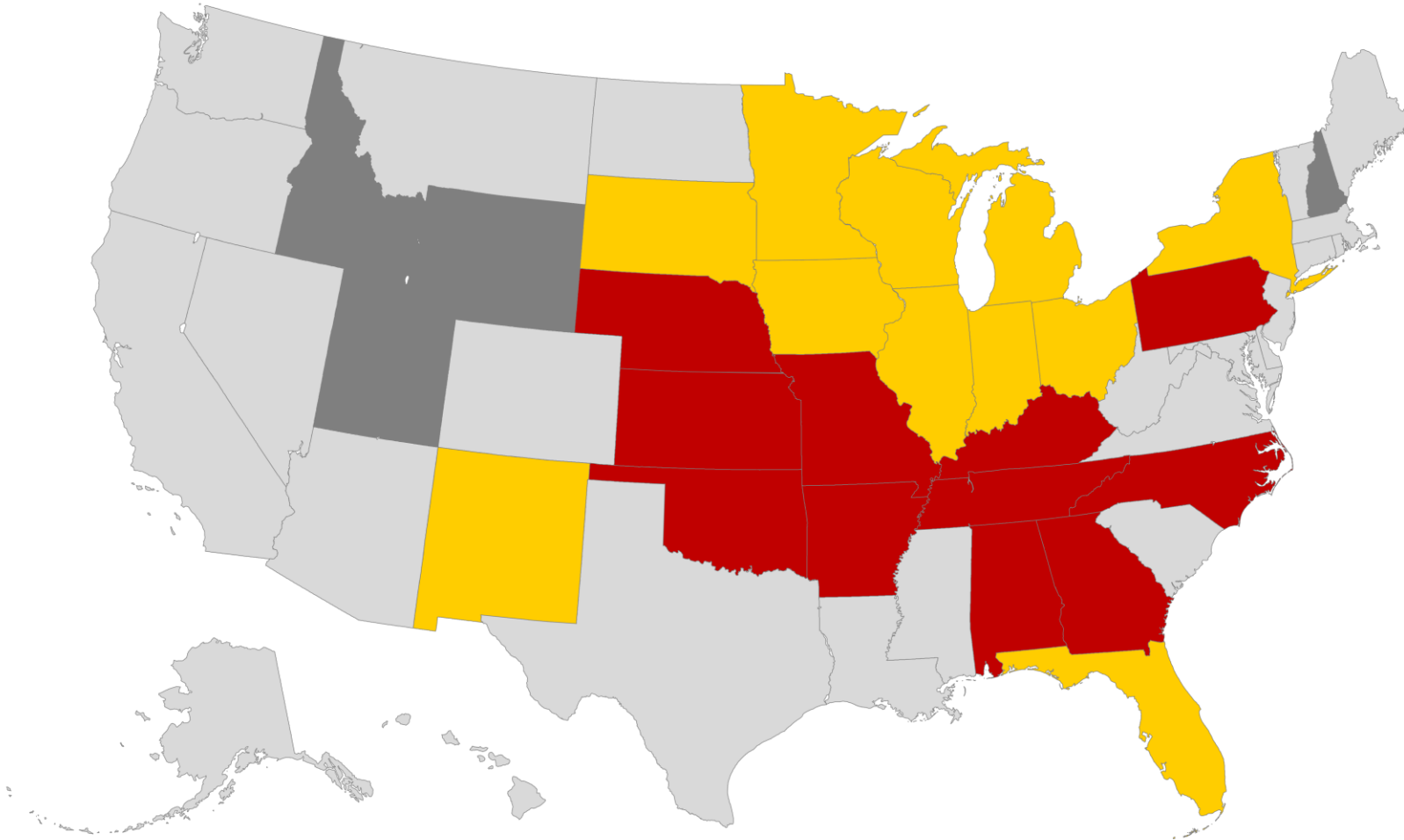
- State with average > 1000 ppb
- State with average < 1000 ppb
- State with samples < LOD (100 ppb)
- No sample submitted

State	Number of Samples	% Positive Samples	Avg of Positive Samples
PA	1	100	3597
NH	1	100	3384
OH	21	100	1784
FL	2	100	1474
NY	3	100	1455
KY	2	100	1175
IN	18	89	1074
AL	4	75	803
WI	16	81	789
NC	2	100	552
IL	4	100	533
NE	27	56	503
MI	5	80	295
AR	3	33	266
NM	2	50	257
MO	15	47	252
IA	19	58	218
MN	14	29	168
GA	15	7	136
UT	1	100	119
ID	1	0	0
KS	4	0	0
OK	1	0	0
SD	5	0	0
TN	2	0	0
WY	1	0	0

Based on the samples analyzed in this region.



2022 Corn Risk by State – FUM



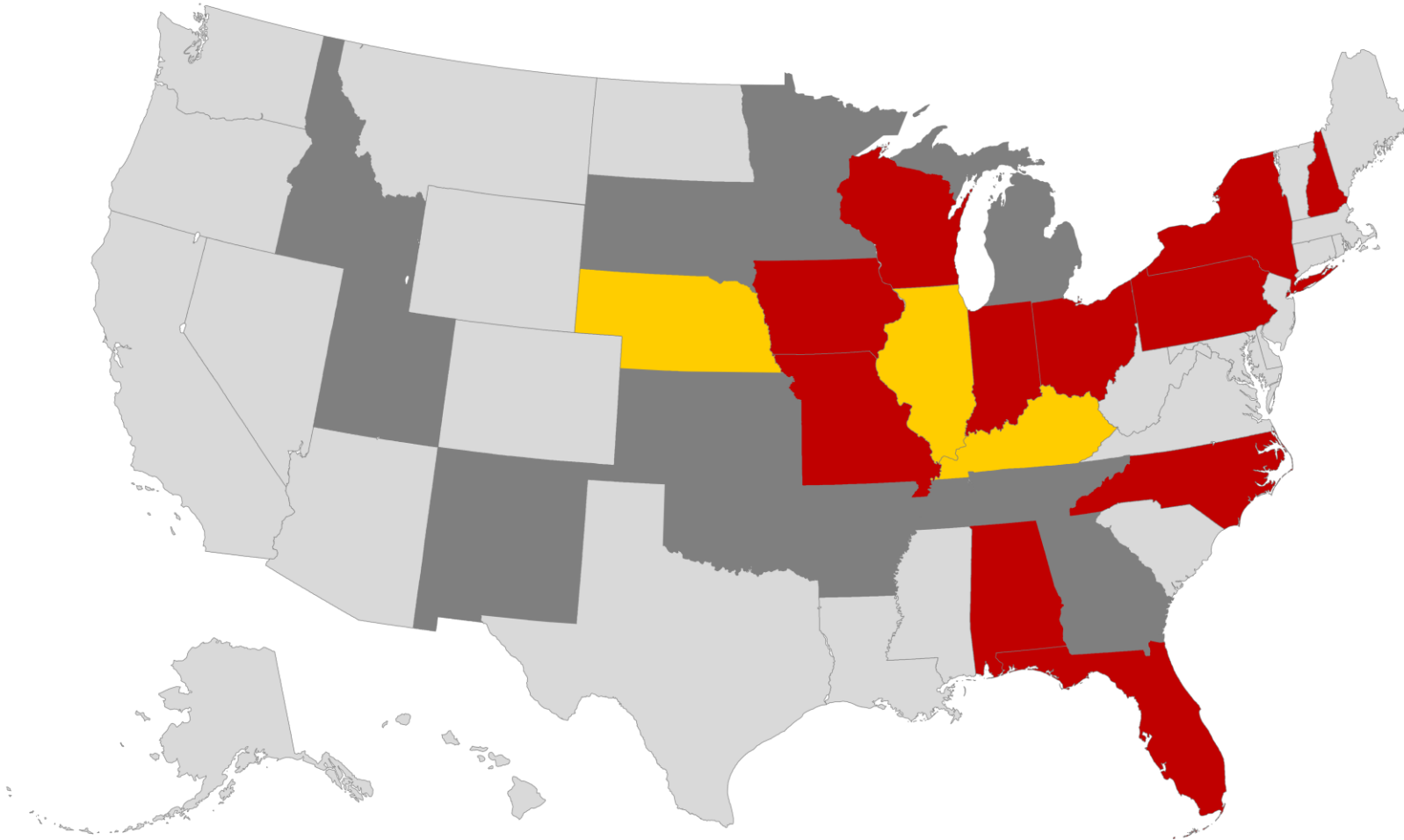
- State with average > 2000 ppb
- State with average < 2000 ppb
- State with samples < LOD (100 ppb)
- No sample submitted

Powered by Bing
© GeoNames, Microsoft, TomTom

State	Number of Samples	% Positive Samples	Avg of Positive Samples
KY	2	100	18300
TN	2	100	12900
AL	4	100	10675
MO	15	93	10593
NC	2	100	9050
PA	1	100	8500
OK	1	100	4700
GA	15	100	4473
NE	27	93	2828
KS	4	100	2375
AR	3	100	2367
NM	2	100	1650
IN	18	67	1558
FL	2	100	1350
IA	19	89	1059
OH	21	57	950
MI	5	100	880
WI	16	63	450
NY	3	100	433
IL	4	75	333
MN	14	29	325
SD	5	20	300
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

Powered by Bing
© GeoNames, Microsoft, TomTom

State	Number of Samples	% Positive Samples	Avg of Positive Samples
IN	18	28	581
NH	1	100	514
OH	21	67	440
NY	3	100	275
IA	19	5	260
AL	4	75	253
FL	2	100	235
MO	15	7	214
PA	1	100	206
WI	16	56	175
NC	2	50	128
KY	2	50	89
IL	4	75	81
NE	27	15	79
AR	3	0	0
GA	15	0	0
ID	1	0	0
KS	4	0	0
MI	5	0	0
MN	14	0	0
NM	2	0	0
OK	1	0	0
SD	5	0	0
TN	2	0	0
UT	1	0	0
WY	1	0	0



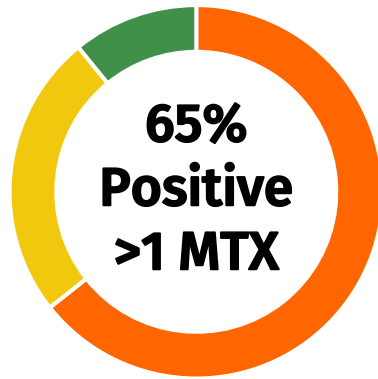
Mycotoxin Survey Summary – 2022 US Corn



189 corn samples submitted from 26 states



vs. 89% in 2021



vs. 57% in 2021

vs. 2021

B-Trich

- 60% positive / ↓ from 69%
- 899 ppb / ↑ from 895 ppb

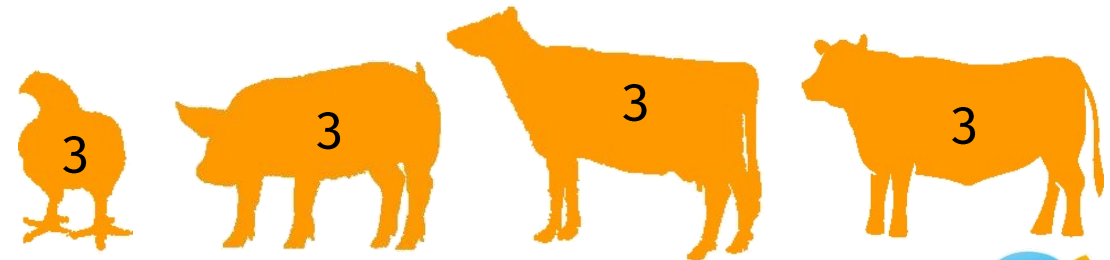
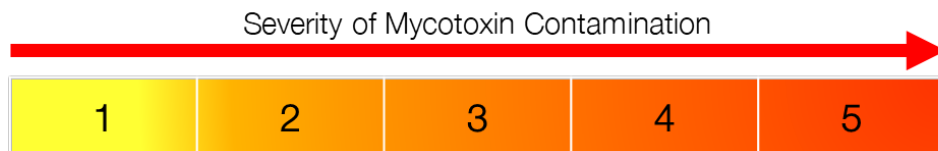
FUM

- 76% positive / ↑ from 64%
- 3514 ppb / ↑ from 2973 ppb

ZEN

- 26% positive / ↓ from 28%
- 299 ppb / ↓ from 384 ppb

Forecasted potential risk for livestock production*:



*Based on the samples analyzed.



Questions?



Thank you!

Paige Gott, PhD
Mycotoxin & Hy-D Manager
paige.gott@dsm.com
+1-210-727-6533



Lan Zheng, PhD
Swine Technical Manager
Lan.zheng-tugwell@dsm.com
+1-913-201-5166



Erin Schwandt, PhD
Ruminant Technical Manager
erin.schwandt@dsm.com
+1-785-473-3485



Chasity Pender, PhD
Poultry Technical Manager
chasity.pender@dsm.com
+1-210-842-0178



BRIGHT SCIENCE. BRIGHTER LIVING.™

