

Mycotoxin Monthly Survey

January 2024

Mycotoxins & Analysis



LC-MS/MS



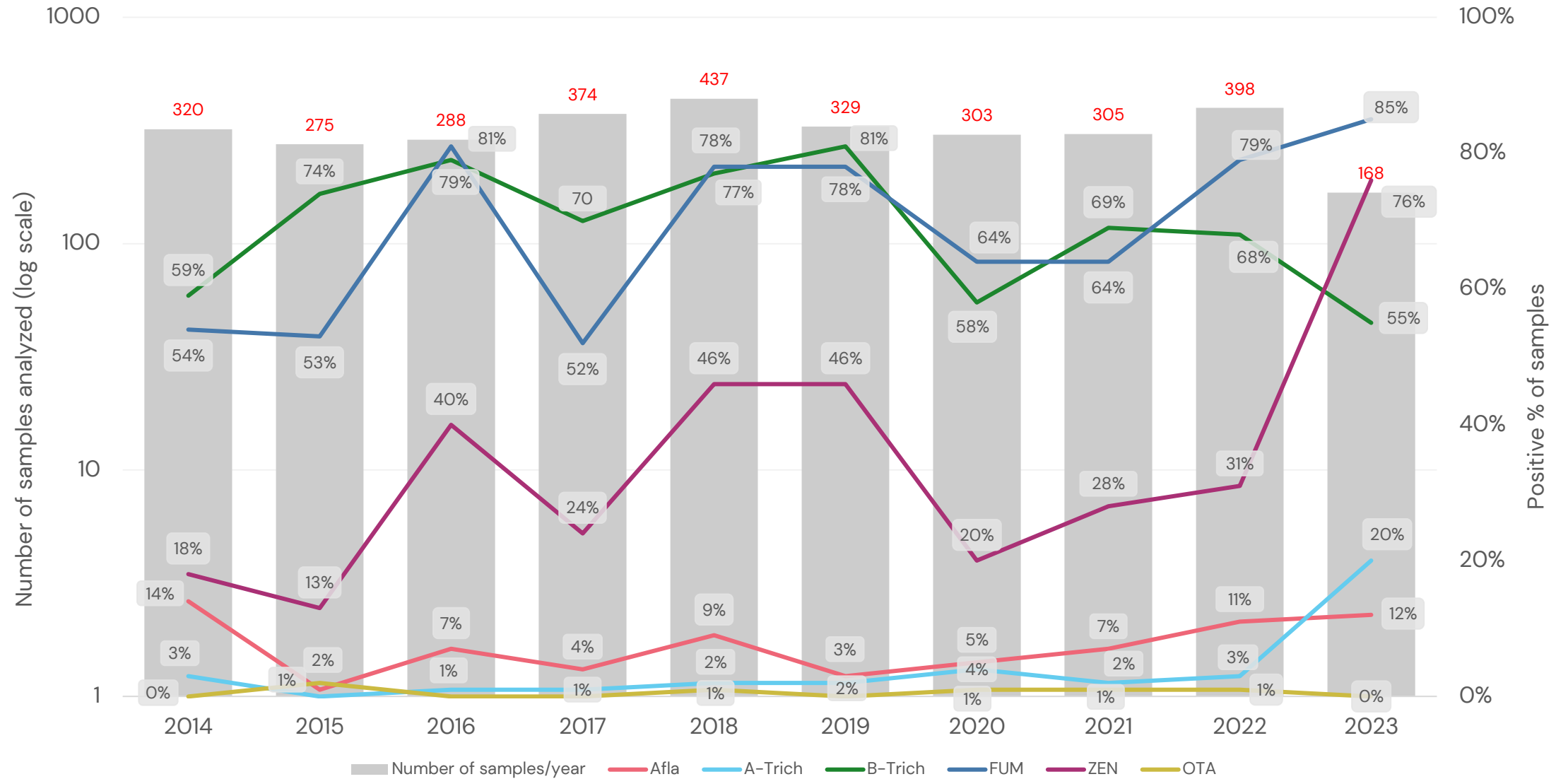
The survey results** represent samples sent in for surveillance testing only and does not include any sample submitted following clinical signs.

Mycotoxin Group	Mycotoxins	OLD Limit of Detection (LOD; ppb)	NEW! PLUS Method 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
Fumonisin (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

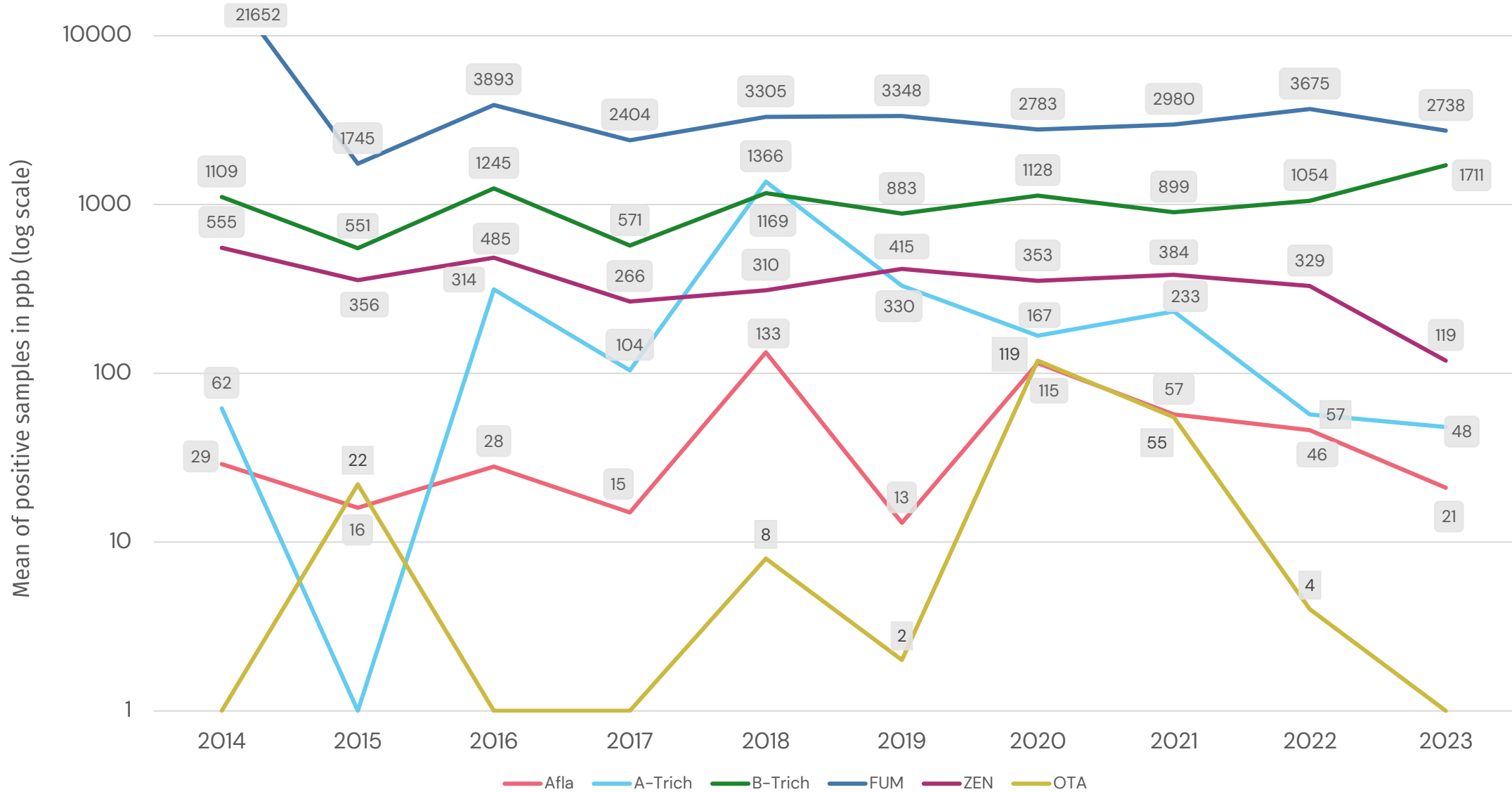
*As of August 1, 2023, Romer Labs implemented the updated PLUS Method featuring enhanced sensitivity through lowered limits of detection (LOD) for most metabolites. Changes in laboratory methods may influence historical comparisons vs. 2023 survey results.

**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.

Occurrence Trend in 2023 US Corn



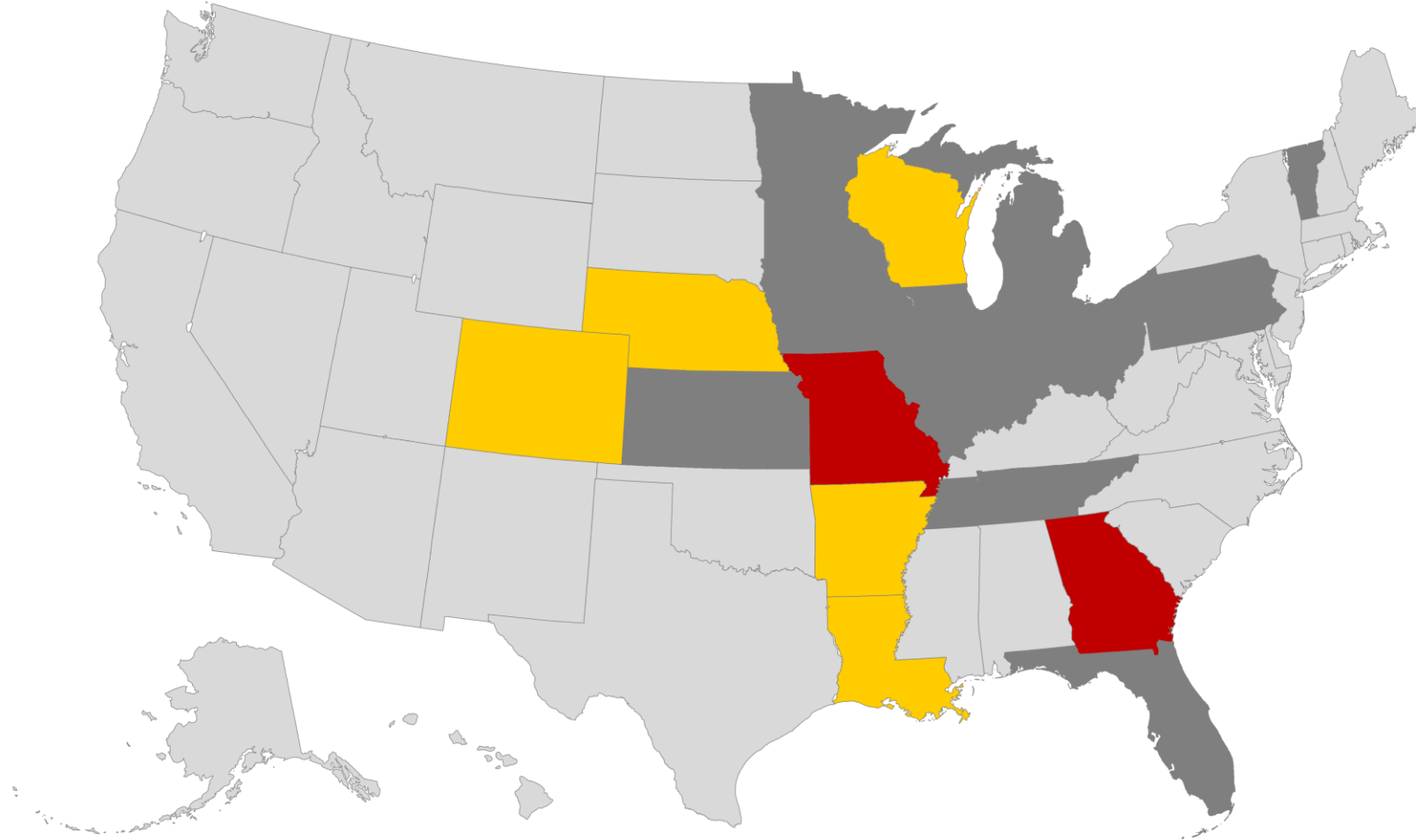
Mean of Positives Trend in 2023 US Corn



Based on the samples analyzed in this region.

Changes in laboratory methods including lowered limits of detection (LOD) may influence historical comparisons vs. 2023 survey results.

2023 Corn Risk by State - Aflatoxins



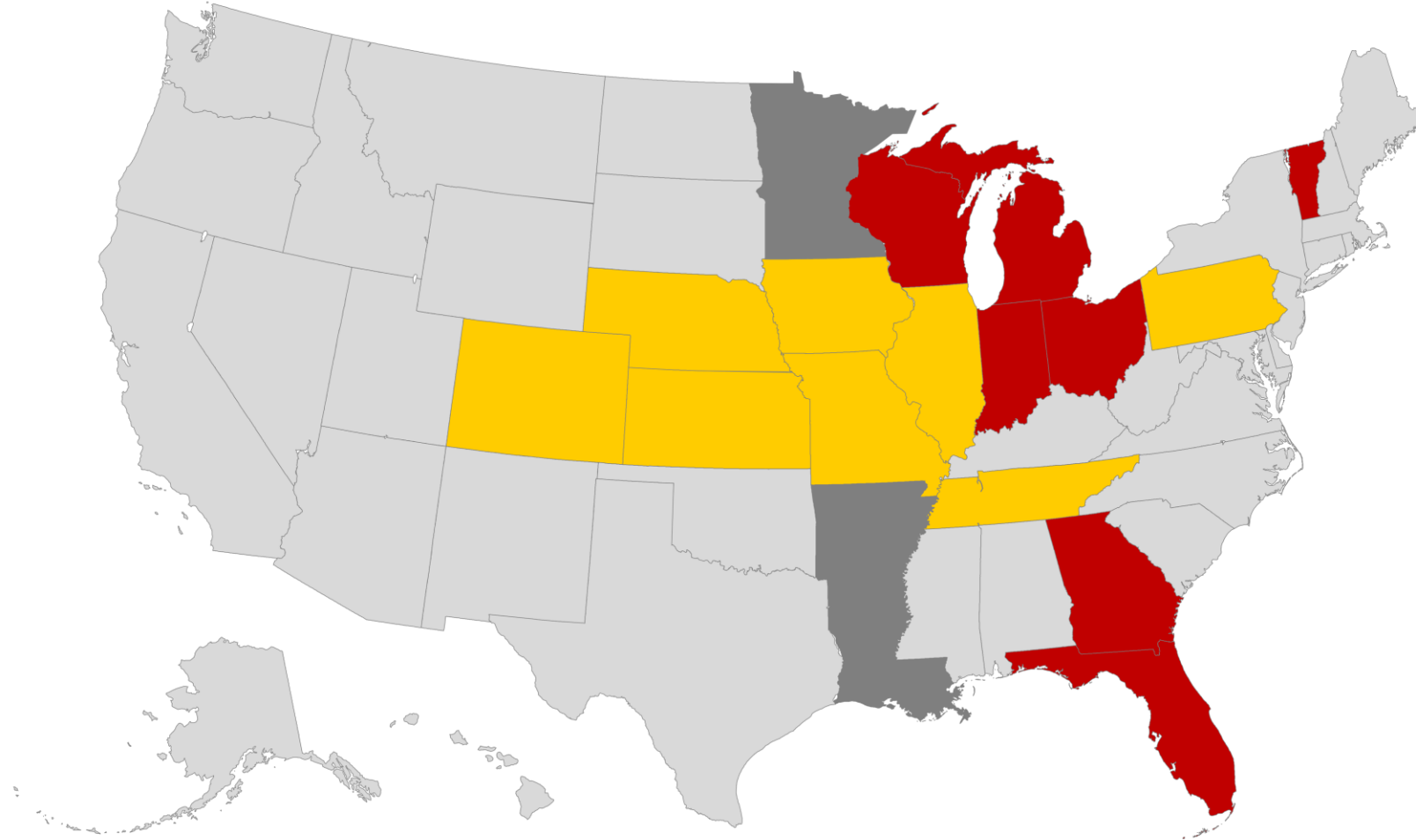
- State with average > 20 ppb
- State with average < 20 ppb
- State with samples < LOD (0.2 ppb)
- No sample submitted

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State	Number of Samples	% Positive Samples	Avg of Positive Samples
GA	2	50	48
MO	30	30	35
LA	6	33	14
AR	16	19	11
CO	10	30	0.3
NE	27	4	0.3
WI	18	6	0.3
FL	2	0	0
IA	11	0	0
IL	4	0	0
IN	9	0	0
KS	3	0	0
MI	4	0	0
MN	3	0	0
OH	16	0	0
PA	2	0	0
TN	4	0	0
VT	1	0	0

Based on the samples analyzed in this region.

2023 Corn Risk by State – Type B Trichothecenes



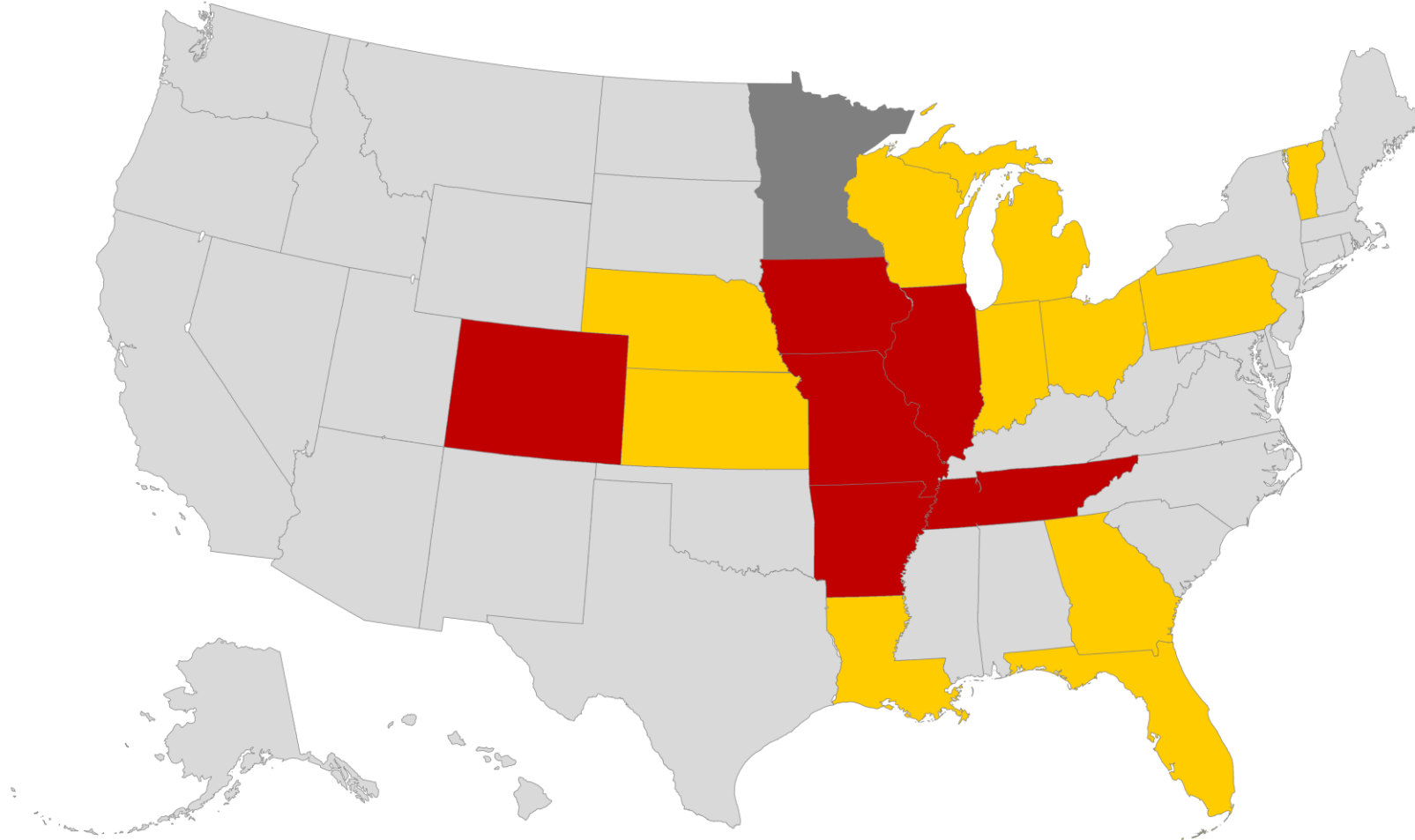
- State with average > 1,000 ppb
- State with average < 1,000 ppb
- State with samples < LOD (105.0 ppb)
- No sample submitted

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State	Number of Samples	% Positive Samples	Avg of Positive Samples
OH	16	100	5103
FL	2	100	3670
MI	4	100	2841
IN	9	100	2548
VT	1	100	2189
GA	2	50	1204
WI	18	94	1106
IL	4	50	986
PA	2	100	694
MO	30	30	375
CO	10	100	298
NE	27	56	202
IA	11	9	175
KS	3	33	175
TN	4	75	175
AR	16	0	0
LA	6	0	0
MN	3	0	0

Based on the samples analyzed in this region.

2023 Corn Risk by State - Fumonisin



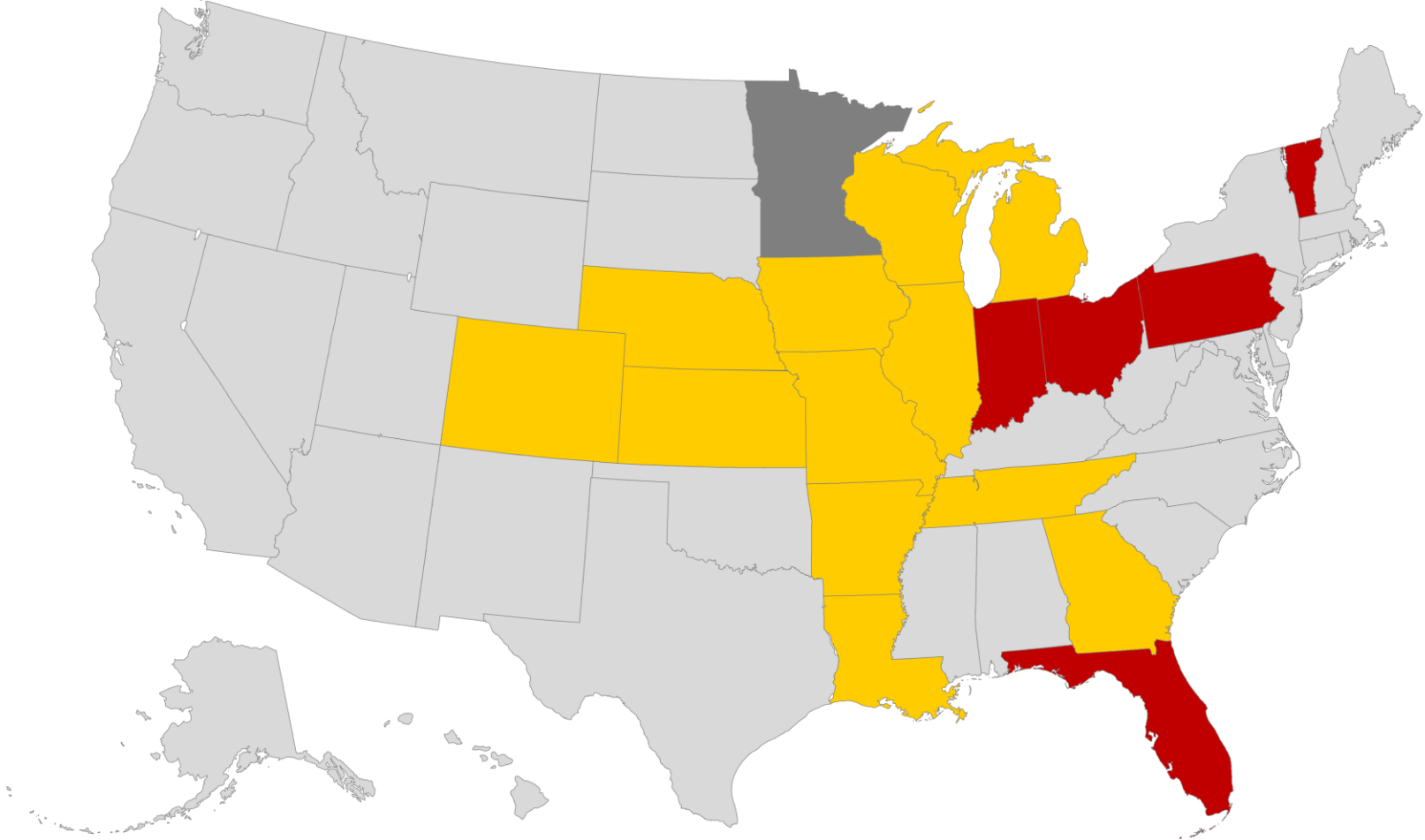
- State with average > 2,000 ppb
- State with average < 2,000 ppb
- State with samples < LOD (50.0 ppb)
- No sample submitted

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State	Number of Samples	% Positive Samples	Avg of Positive Samples
CO	10	100	9252
MO	30	97	5287
TN	4	100	3657
IL	4	100	3650
AR	16	88	3040
IA	11	55	2039
LA	6	100	1577
GA	2	100	1285
KS	3	100	1032
NE	27	100	977
OH	16	63	781
VT	1	100	698
IN	9	89	517
FL	2	100	307
MI	4	50	298
WI	18	72	273
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

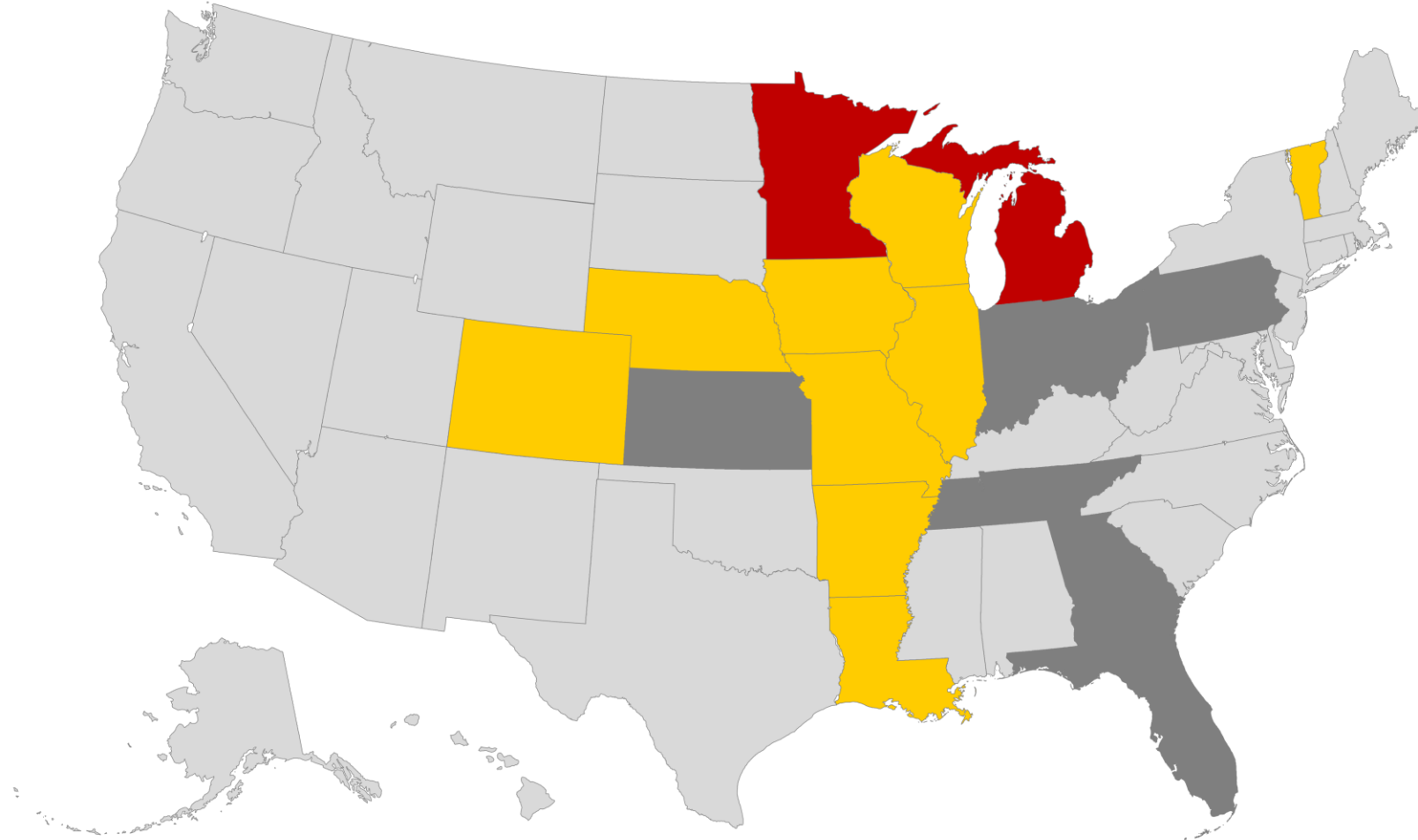
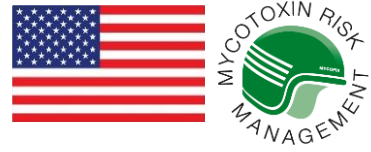
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	Number of Samples	% Positive Samples	Avg of Positive Samples
VT	1	100	951
PA	2	100	662
OH	16	100	440
FL	2	100	402
IN	9	100	232
MI	4	100	77
IA	11	45	53
KS	3	100	24
NE	27	78	23
IL	4	100	20
MO	30	63	20
WI	18	100	18
TN	4	100	17
GA	2	100	14
AR	16	6	3
CO	10	100	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

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State	Number of Samples	% Positive Samples	Avg of Positive Samples
MN	3	33	192
MI	4	25	139
IA	11	36	88
WI	18	78	49
VT	1	100	41
MO	30	23	24
AR	16	13	16
CO	10	10	8
IL	4	25	8
LA	6	17	8
NE	27	4	8
FL	2	0	0
GA	2	0	0
IN	9	0	0
KS	3	0	0
OH	16	0	0
PA	2	0	0
TN	4	0	0

Based on the samples analyzed in this region.

Mycotoxin Survey Summary – 2023 US Corn

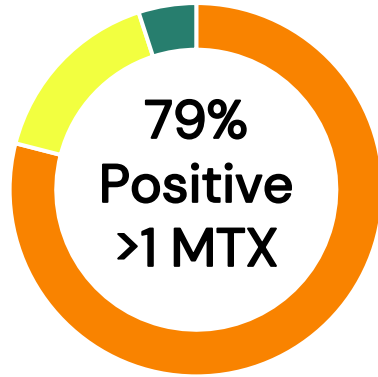


vs. 2022

168 corn samples submitted from 18 states



vs. 92% in 2022



vs. 69% in 2022



- 55% positive / ↓ from 68%
- 1711 ppb / ↑ from 1054 ppb



- 85% positive / ↑ from 79%
- 2738 ppb / ↓ from 3675 ppb



- 76% positive / ↑ from 31%
- 119 ppb / ↓ from 329 ppb

- Changes in laboratory methods including lowered limits of detection (LOD) may influence historical comparisons vs. 2023 survey results.
 - Romer Labs PLUS Method was implemented August 2023 featuring enhanced sensitivity for most metabolites
 - Increased occurrence
 - Lower means
 - Greatest impacts observed so far:
 - ZEN
 - A-Trich
- Continued monitoring and surveillance of new crop ingredients is warranted

Based on the samples analyzed in this region.

Questions?



Thank you!

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