



AAFCO
Association of American Feed Control Officials



Mycotoxin Contaminants Scheme

Fish Feed

Test Material Code # 202364

Method Summary Report

(Precision Report Follows)

Labs Reporting: 65

Methods Reported: 97

Issue Date : 11/30/2023

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	Revised Horwitz SD (offp)	Uncertainty (U) Robust	% RSD - Robust	Average Range (Rob R-bar)	Thompson Horwitz %RSD
600.01	Total Aflatoxin, Neogen Veratox Aflatoxin (ppb)	12	12	20.75	2.889	20.97	7.109	2.565	33.91%	2.625	22.00%
600.20	Total Aflatoxin, LC (ppb)	10	10	17.27	3.926	17.27	5.886	2.327	34.09%	1.166	22.00%
600.14	Total Aflatoxin, Vicam Aflatest (ppb)	7	7	20.15	4.701	20.15	6.839	3.231	33.94%	3.408	22.00%
600.24	Total Aflatoxin, LC-MS/MS (ppb)	7	7	20.30	5.362	20.08	6.818	3.221	33.95%	1.409	22.00%
600.08	Total Aflatoxin, Romer AgraQuant Total Afl 4-40ppb (ppb)	3	3	18.32	3.756	18.32	6.235	4.409	34.03%	3.235	22.00%
600.12	Total Aflatoxin, r-Biopharm Ridascreen FAST Afl (ppb)	3	3	18.88	12.87	18.88	6.419	3.706	34.00%	1.931	22.00%
600.98	Total Aflatoxin, Other Rapid Test Kit (ppb)	3	3	27.05	8.628	27.05	9.109	5.259	33.67%	2.650	22.00%
600.13	Total Aflatoxin, r-Biopharm Ridascreen FAST Afl SC (ppb)	2	2	15.04	0.3960						
600.21	Total Aflatoxin, LC-PCD FI (ppb)	2	2	23.46	5.158						
600.22	Total Aflatoxin, Vicam Aflatest, LC-FI (ppb)	2	2	19.86	0.0601						
600.99	Total Aflatoxin, Miscellaneous (ppb)	2	2	17.13	3.346						
600.16	Total Aflatoxin, RANDOX Biochip Array (ppb)	1	1	31.70							
600.23	Total Aflatoxin, LC-MS (ppb)	1	1	0.6500							
601.23	Aflatoxin B1, LC-MS/MS (ppb)	15	13	18.71	5.731	18.43	6.271	2.174	34.03%	0.9433	22.00%
601.20	Aflatoxin B1, LC (ppb)	9	9	15.49	3.473	15.49	5.295	2.206	34.19%	0.9457	22.00%
601.24	Aflatoxin B1, Vicam Aflatest, LC-FI (ppb)	3	3	18.05	1.064	18.05	6.144	3.547	34.05%	1.657	22.00%
601.98	Aflatoxin B1, Other Rapid Test Kit (ppb)	4	3	24.43	5.865	24.43	8.249	4.763	33.77%	0.1650	22.00%
601.16	Aflatoxin B1, RANDOX Biochip Array (ppb)	2	2	25.37	21.66						
601.21	Aflatoxin B1, LC-PCD FI (ppb)	2	2	22.56	3.270						
601.99	Aflatoxin B1, Miscellaneous (ppb)	1	1	3.000							
602.20	Aflatoxin B2, LC (ppb)	9	8	1.189	0.3307	1.189	0.4359	0.1926	36.65%	0.0883	22.00%
602.23	Aflatoxin B2, LC-MS/MS (ppb)	12	7	1.444	0.4853	1.411	0.5146	0.2431	36.48%	0.5506	22.00%
602.24	Aflatoxin B2, Vicam Aflatest, LC-FI (ppb)	3	3	1.323	0.2511	1.323	0.4836	0.2792	36.55%	0.1333	22.00%
602.21	Aflatoxin B2, LC-PCD FI (ppb)	1	1	2.235							
603.16	Aflatoxin G1, RANDOX Biochip Array (ppb)	1	1	2.130							
603.99	Aflatoxin G1, Miscellaneous (ppb)	1	1	16.50							
603.20	Aflatoxin G1, LC (ppb)	2	2	0.0000							
603.23	Aflatoxin G1, LC-MS/MS (ppb)	10	10								
603.24	Aflatoxin G1, Vicam Aflatest, LC-FI (ppb)	1	1	15.00							

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	Revised Horwitz SD (offp)	Uncertainty (U) Robust	% RSD - Robust	Average Range (Rob R-bar)	Thompson Horwitz %RSD
604.20	Aflatoxin G2, LC (ppb)	2		0.0000							
604.23	Aflatoxin G2, LC-MS/MS (ppb)	10									
604.24	Aflatoxin G2, Vicam Aflatest, LC-FI (ppb)	1		5.000							
610.23	Deoxynivalenol, LC-MS/MS (ppb)	18	18	1,164	411.5	1,200	364.6	107.4	30.39%	54.97	15.56%
610.01	Deoxynivalenol, Neogen Veratox for DON (ppb)	11	11	1,826	225.7	1,826	548.5	206.7	30.04%	312.5	14.61%
610.20	Deoxynivalenol, LC (ppb)	6	6	1,988	1,302	1,562	471.2	240.5	30.17%	136.0	14.96%
610.98	Deoxynivalenol, Other Rapid Test Kit (ppb)	5	5	1,570	291.9	1,570	473.6	211.8	30.17%	156.1	14.95%
610.07	Deoxynivalenol, r-Biopharm Ridascreen FAST DON (ppb)	4	4	1,503	250.5	1,503	453.9	226.9	30.20%	149.0	15.05%
610.05	Deoxynivalenol, Romer AgraQuant DON (ppb)	3	3	1,854	245.9	1,854	556.6	321.4	30.03%	61.53	14.58%
610.16	Deoxynivalenol, RANDOX Biochip Array (ppb)	3	3	1,009	426.4	1,009	308.2	177.9	30.53%	131.0	15.97%
610.99	Deoxynivalenol, Miscellaneous (ppb)	3	3	1,034	282.7	1,034	315.3	182.0	30.51%	64.74	15.92%
610.08	Deoxynivalenol, r-Biopharm Ridascreen FAST DON SC (ppb)	2	2	1,394	1,002						
610.09	Deoxynivalenol, Vicam DON-V (ppb)	1	1	3,330							
610.22	Deoxynivalenol, LC-MS (ppb)	1	1	903.0							
610.25	Deoxynivalenol, GC-MS (ppb)	1	1	2,067							
620.01	Total Fumonisin, Neogen Veratox Fumonisin (ppb)	9	9	1,937	336.3	1,890	567.3	236.4	30.01%	356.4	14.54%
620.23	Total Fumonisin, LC-MS/MS (ppb)	6	6	1,614	801.6	1,852	556.1	283.8	30.03%	56.25	14.58%
620.98	Total Fumonisin, Other Rapid Test Kit (ppb)	5	5	1,606	969.5	1,606	484.2	216.5	30.15%	197.4	14.90%
620.09	Total Fumonisin, r-Biopharm Ridascreen FAST FUM (ppb)	4	3	1,835	721.7	1,835	551.2	318.2	30.04%	143.3	14.60%
620.11	Total Fumonisin, Vicam Fumonitest (ppb)	3	3	1,184	1,024	1,184	359.8	207.8	30.40%	100.0	15.60%
620.16	Total Fumonisin, RANDOX Biochip Array (ppb)	3	3	956.3	372.5	956.3	292.4	168.8	30.57%	57.58	16.10%
620.07	Total Fumonisin, Romer AgraQuant Total Fumonisin (ppb)	2	2	1,845	756.6						
620.99	Total Fumonisin, Miscellaneous (ppb)	2	2	1,225	266.3						
620.02	Total Fumonisin, Neogen Veratox Fumonisin 5/10 (ppb)	1	1	1,550							
620.12	Total Fumonisin, Vicam Fumonitest 200 (ppb)	1	1	2,100							
621.23	Fumonsin B1, LC-MS/MS (ppb)	14	14	1,942	2,174	1,440	435.4	145.4	30.24%	57.71	15.14%
621.20	Fumonsin B1, LC (ppb)	2	2	1,788	875.9						
621.21	Fumonsin B1, LC-FI OPA der. (ppb)	2	2	725.6	1,025						
621.98	Fumonsin B1, Other Rapid Test Kit (ppb)	1	1	1,567							
622.23	Fumonisin B2, LC-MS/MS (ppb)	13	13	646.8	788.7	439.8	137.3	47.61	31.22%	45.83	18.10%
622.21	Fumonisin B2, LC-FI OPA der. (ppb)	2	2	175.2	247.3						
622.20	Fumonisin B2, LC (ppb)	1	1	382.1							
623.23	Fumonisin B3, LC-MS/MS (ppb)	7	7	177.7	68.52	177.7	56.87	26.87	32.00%	5.006	20.75%
630.23	Ochratoxin A, LC-MS/MS (ppb)	14	12	12.23	5.994	11.77	4.054	1.463	34.44%	2.231	22.00%
630.20	Ochratoxin A, LC (ppb)	9	8	10.07	2.856	9.895	3.424	1.513	34.61%	0.9800	22.00%
630.98	Ochratoxin A, Other Rapid Test Kit (ppb)	4	4	11.77	7.229	11.77	4.055	2.028	34.44%	1.710	22.00%
630.05	Ochratoxin A, r-Biopharm Ridascreen FAST Och A (ppb)	3	3	11.01	4.384	11.01	3.800	2.194	34.50%	1.155	22.00%
630.06	Ochratoxin A, Vicam OchraTest (ppb)	3	3	9.652	1.252	9.652	3.342	1.930	34.63%	0.9850	22.00%
630.01	Ochratoxin A, Neogen Veratox Ochratoxin (ppb)	3	2	60.74	81.26	60.74	20.01			10.40	22.00%
630.03	Ochratoxin A, Romer AgraQuant Ochratoxin (ppb)	2	2	7.863	5.116						

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630.16	Ochratoxin A, RANDOX Biochip Array (ppb)	2	2	7.813	4.897						
630.99	Ochratoxin A, Miscellaneous (ppb)	2	2	4.165	1.888						
630.04	Ochratoxin A, r-Biopharm Ridascreen Ochratoxin A (ppb)	1	1	4.015							
640.23	T-2 Toxin, LC-MS/MS (ppb)	16	14	82.61	21.12	83.91	27.40	9.155	32.66%	7.059	22.00%
640.98	T-2 Toxin, Other Rapid Test Kit (ppb)	4	3	115.0	34.51	115.0	37.23	21.49	32.38%	2.080	22.00%
640.03	T-2 Toxin, Romer AgraQuant T-2 (ppb)	2	2	123.1	47.49						
640.05	T-2 Toxin, r-Biopharm Ridascreen FAST T-2 (ppb)	2	2	113.1	15.36						
640.16	T-2 Toxin, RANDOX Biochip Array (ppb)	1	1	113.5							
640.20	T-2 Toxin, LC (ppb)	1	1	91.06							
640.25	T-2 Toxin, GC-MS (ppb)	1	1	101.5							
641.23	HT-2 Toxin, LC-MS/MS (ppb)	12	12	122.4	47.78	118.7	38.41	13.86	32.35%	16.55	22.00%
642.21	T-2 Toxin + HT-2 Toxin, Neogen Veratox T-2 + HT-2 (ppb)	4	4	253.0	99.77	253.0	80.20	40.10	31.70%	29.04	19.67%
642.98	T-2 Toxin + HT-2 Toxin, Other Rapid Test Kit (ppb)	4	4	324.7	91.71	324.7	102.2	51.11	31.48%	25.66	18.95%
642.04	T-2 Toxin + HT-2 Toxin, LC-MS (ppb)	3	3	206.1	104.6	206.1	65.70	37.93	31.87%	6.509	20.29%
642.16	T-2 Toxin + HT-2 Toxin, RANDOX Biochip Array (ppb)	2	2	119.1	74.44						
642.99	T-2 Toxin + HT-2 Toxin, Miscellaneous Technique (ppb)	2	2	228.4	185.8						
650.24	Zearalenone, LC-MS/MS (ppb)	13	12	353.8	254.4	295.1	93.15	33.61	31.56%	28.10	19.22%
650.20	Zearalenone, LC (ppb)	9	9	274.9	53.33	275.5	87.11	36.30	31.62%	16.30	19.42%
650.98	Zearalenone, Other Rapid Test Kit (ppb)	5	5	348.5	76.86	348.5	109.5	48.97	31.42%	24.89	18.75%
650.01	Zearalenone, Neogen Veratox Zearalenone (ppb)	5	4	280.1	38.90	280.1	89.34	51.58	31.90%	7.605	19.37%
650.04	Zearalenone, Romer AgraQuant ZON (ppb)	3	3	208.0	30.75	208.0	66.29	46.87	31.86%	16.75	20.26%
650.06	Zearalenone, r-Biopharm Ridascreen FAST ZON (ppb)	3	3	218.3	88.91	218.3	69.47	40.11	31.82%	22.13	20.11%
650.07	Zearalenone, r-Biopharm Ridascreen FAST ZON SC (ppb)	3	3	271.4	83.80	271.4	85.86	49.57	31.64%	48.34	19.47%
650.16	Zearalenone, RANDOX Biochip Array (ppb)	3	3	290.3	94.71	290.3	91.68	52.93	31.58%	25.37	19.27%
650.99	Zearalenone, Miscellaneous (ppb)	3	3	298.2	126.9	298.2	94.09	54.32	31.55%	18.33	19.19%
650.21	Zearalenone, LC-FI, ISO (ppb)	2	2	252.8	35.24						
650.23	Zearalenone, LC-MS (ppb)	2	2	210.8	117.1						
650.05	Zearalenone, r-Biopharm Ridascreen Zearalenon (ppb)	1	1	197.0							

Notes: Robust statistics not used if < 6 labs reporting. In this case Means and SD's may be reported based on Raw Data with obvious blunders removed. Robust Assigned Values indicated in bold font. Horwitz and Revised Horwitz SD's assigned regardless of participant number.



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Mycotoxin Contaminants Scheme

Fish Feed

Test Material Code # 202364

Method Precision Report

Methods Reported: 24

Labs Reporting: 65

Issue Date : 11/30/2023

Method Code	Analyte and Method	Total # Labs Submitting	# Labs used in Precision Calcs	Precision Mean	Precision SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
600.01	Total Aflatoxin, Neogen Veratox Aflatoxin (ppb)	12	10	20.75	2.889	1.631	2.182	2.724	7.62%	10.20%	12.73%	1.248
600.14	Total Aflatoxin, Vicam Aflatest (ppb)	7	6	20.15	4.701	4.948	0.8954	5.028	24.03%	4.35%	24.42%	5.615
600.20	Total Aflatoxin, LC (ppb)	10	9	17.27	3.926	3.465	0.6207	3.520	20.88%	3.74%	21.21%	5.671
600.24	Total Aflatoxin, LC-MS/MS (ppb)	7	7	20.30	5.362	5.299	1.157	5.423	26.10%	5.70%	26.71%	4.688
601.20	Aflatoxin B1, LC (ppb)	9	9	15.49	3.473	3.442	0.6601	3.505	22.22%	4.26%	22.63%	5.309
601.23	Aflatoxin B1, LC-MS/MS (ppb)	15	12	18.71	5.731	4.693	0.6752	4.741	26.47%	3.81%	26.74%	7.022
602.20	Aflatoxin B2, LC (ppb)	9	8	1.189	0.3307	0.3272	0.0675	0.3341	27.51%	5.68%	28.09%	4.949
602.23	Aflatoxin B2, LC-MS/MS (ppb)	12	6	1.444	0.4853	0.2897	0.1180	0.3128	22.42%	9.13%	24.20%	2.651
610.01	Deoxynivalenol, Neogen Veratox for DON (ppb)	11	11	1,826	225.7	160.3	224.8	276.0	8.78%	12.31%	15.12%	1.228
610.20	Deoxynivalenol, LC (ppb)	6	5	1,988	1,302	178.4	63.50	189.4	12.22%	4.35%	12.97%	2.983
610.23	Deoxynivalenol, LC-MS/MS (ppb)	18	17	1,164	411.5	299.1	45.18	302.5	24.27%	3.67%	24.55%	6.694
610.98	Deoxynivalenol, Other Rapid Test Kit (ppb)	5	5	1,570	291.9	274.2	141.3	308.5	17.47%	9.00%	19.65%	2.183
620.01	Total Fumonisin, Neogen Veratox Fumonisin (ppb)	9	7	1,937	336.3	95.67	214.7	235.0	5.11%	11.46%	12.55%	1.095
620.98	Total Fumonisin, Other Rapid Test Kit (ppb)	5	5	1,606	969.5	958.7	203.4	980.1	59.69%	12.67%	61.02%	4.817
621.23	Fumonisin B1, LC-MS/MS (ppb)	14	13	1,942	2,174	426.8	72.34	432.9	31.12%	5.27%	31.56%	5.984
622.23	Fumonisin B2, LC-MS/MS (ppb)	13	11	646.8	788.7	134.5	31.06	138.1	30.26%	6.99%	31.06%	4.445
623.23	Fumonisin B3, LC-MS/MS (ppb)	7	6	177.7	68.52	67.65	2.816	67.71	35.81%	1.49%	35.84%	24.04
630.20	Ochratoxin A, LC (ppb)	9	8	10.07	2.856	2.823	0.6106	2.888	28.02%	6.06%	28.67%	4.730
630.23	Ochratoxin A, LC-MS/MS (ppb)	14	11	12.23	5.994	4.175	2.070	4.660	37.97%	18.82%	42.37%	2.252
640.23	T-2 Toxin, LC-MS/MS (ppb)	16	13	82.61	21.12	16.24	4.866	16.95	18.81%	5.64%	19.64%	3.483
641.23	HT-2 Toxin, LC-MS/MS (ppb)	12	10	122.4	47.78	31.07	13.33	33.81	26.39%	11.33%	28.72%	2.535
650.20	Zearalenone, LC (ppb)	9	8	274.9	53.33	56.64	9.176	57.37	20.60%	3.34%	20.87%	6.253
650.24	Zearalenone, LC-MS/MS (ppb)	13	11	353.8	254.4	61.70	21.47	65.33	21.84%	7.60%	23.13%	3.042
650.98	Zearalenone, Other Rapid Test Kit (ppb)	5	5	348.5	76.86	75.60	19.55	78.09	21.70%	5.61%	22.41%	3.994

Notes: Precision Calculations provided for methods with 5 or more labs contributing to calculations.