



AAFCO
Association of American Feed Control Officials



Mycotoxin Contaminants Scheme

Distiller's Grains

Test Material Code # 202463

Method Summary Report

(Precision Report Follows)

Labs Reporting: 70

Methods Reported: 99

Issue Date : 08/31/2024

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
600.20	Total Aflatoxin, LC (ppb)	12	11	8.799	3.482	8.364	2.908	1.096	34.76%	0.8781	22.00%
600.01	Total Aflatoxin, Neogen Veratox Aflatoxin (ppb)	11	10	9.812	5.999	9.600	3.325	1.314	34.63%	1.124	22.00%
600.98	Total Aflatoxin, Other Rapid Test Kit (ppb)	7	7	6.478	4.771	5.913	2.075	0.9804	35.09%	1.282	22.00%
600.14	Total Aflatoxin, Vicam Aflatest (ppb)	6	4	4.435	2.149	4.435	1.568	0.9803	35.37%	0.4000	22.00%
600.08	Total Aflatoxin, Romer AgraQuant Total Afl 4-40ppb (ppb)	3	3	7.415	1.081	7.415	2.586	1.493	34.88%	0.8250	22.00%
600.12	Total Aflatoxin, r-Biopharm Ridascreen FAST Afl (ppb)	3	3	21.33	10.93	21.33	7.230	5.112	33.89%	4.354	22.00%
600.13	Total Aflatoxin, r-Biopharm Ridascreen FAST Afl SC (ppb)	3	3	5.765	2.083	5.765	2.024	1.169	35.12%	1.637	22.00%
600.24	Total Aflatoxin, LC-MS/MS (ppb)	6	3	8.973	4.052	8.973	3.113	2.247	34.70%	0.1800	22.00%
600.02	Total Aflatoxin, Neogen Veratox Aflatoxin HS (ppb)	1	1	6.450							
600.16	Total Aflatoxin, RANDOX Biochip Array (ppb)	1	1	8.334							
600.21	Total Aflatoxin, LC-PCD FI (ppb)	1	1	8.385							
600.22	Total Aflatoxin, Vicam Aflatest, LC-FI (ppb)	1	1	5.185							
600.23	Total Aflatoxin, LC-MS (ppb)	1	1	1.490							
601.23	Aflatoxin B1, LC-MS/MS (ppb)	17	13	7.585	4.785	6.834	2.389	0.8282	34.95%	0.8098	22.00%
601.20	Aflatoxin B1, LC (ppb)	10	10	7.334	2.922	6.825	2.386	0.9430	34.96%	0.7000	22.00%
601.16	Aflatoxin B1, RANDOX Biochip Array (ppb)	3	3	7.605	2.273	7.605	2.650	1.530	34.85%	0.8379	22.00%
601.24	Aflatoxin B1, Vicam Aflatest, LC-FI (ppb)	3	3	4.567	2.150	4.567	1.614	1.141	35.34%	0.6200	22.00%
601.21	Aflatoxin B1, LC-PCD FI (ppb)	2	2	7.628	0.1450						
601.98	Aflatoxin B1, Other Rapid Test Kit (ppb)	2	2	8.245	0.3748						
601.91	Aflatoxin B1, Romer AgraQuant Afl B1 (ppb)	1	1	7.260							
602.20	Aflatoxin B2, LC (ppb)	8	7	0.6543	0.4132	0.5570	0.2084	0.0984	37.41%	0.2467	22.00%
602.23	Aflatoxin B2, LC-MS/MS (ppb)	13	2	0.7725	0.3147	0.7725	0.2865	0.2532		0.2450	22.00%
602.21	Aflatoxin B2, LC-PCD FI (ppb)	1	1	0.5700							
602.24	Aflatoxin B2, Vicam Aflatest, LC-FI (ppb)	3	1								
603.16	Aflatoxin G1, RANDOX Biochip Array (ppb)	2	2	1.413	0.0036						
603.20	Aflatoxin G1, LC (ppb)	4	2	4.905	6.640	4.905	1.730				22.00%
603.24	Aflatoxin G1, Vicam Aflatest, LC-FI (ppb)	3	1								
603.98	Aflatoxin G1, Other Rapid Test Kit (ppb)	1	1	1.155							
603.21	Aflatoxin G1, LC-PCD FI (ppb)	1		0.2000							

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
603.23	Aflatoxin G1, LC-MS/MS (ppb)	13									
604.20	Aflatoxin G2, LC (ppb)	3	1								
604.24	Aflatoxin G2, Vicam Aflatest, LC-FI (ppb)	3	1								
604.21	Aflatoxin G2, LC-PCD FI (ppb)	1		0.2000							
604.23	Aflatoxin G2, LC-MS/MS (ppb)	13									
610.23	Deoxynivalenol, LC-MS/MS (ppb)	19	18	803.4	185.1	808.7	248.4	73.18	30.71%	43.55	16.52%
610.01	Deoxynivalenol, Neogen Veratox for DON (ppb)	11	11	1,101	331.7	1,103	335.8	126.6	30.46%	148.8	15.76%
610.20	Deoxynivalenol, LC (ppb)	8	8	891.7	280.0	891.7	273.2	120.7	30.63%	52.83	16.27%
610.98	Deoxynivalenol, Other Rapid Test Kit (ppb)	8	8	992.0	359.2	926.7	283.6	125.3	30.60%	254.6	16.18%
610.07	Deoxynivalenol, r-Biopharm Ridascreen FAST DON (ppb)	4	3	1,219	191.3	1,219	370.2	261.8	30.37%	105.0	15.53%
610.16	Deoxynivalenol, RANDOX Biochip Array (ppb)	3	3	1,000	279.1	1,000	305.4	176.3	30.54%	38.67	16.00%
610.05	Deoxynivalenol, Romer AgraQuant DON (ppb)	2	2	1,079	34.51						
610.08	Deoxynivalenol, r-Biopharm Ridascreen FAST DON SC (ppb)	2	2	900.8	425.3						
610.02	Deoxynivalenol, Neogen Veratox for DON HS (ppb)	1	1	572.5							
610.22	Deoxynivalenol, LC-MS (ppb)	1	1	1,000							
610.25	Deoxynivalenol, GC-MS (ppb)	1	1	1,166							
610.99	Deoxynivalenol, Miscellaneous (ppb)	1	1	737.7							
620.98	Total Fumonisin, Other Rapid Test Kit (ppb)	9	9	948.4	165.8	945.1	289.0	120.4	30.58%	98.59	16.13%
620.23	Total Fumonisin, LC-MS/MS (ppb)	6	6	980.8	433.7	980.8	299.6	152.9	30.55%	90.87	16.04%
620.01	Total Fumonisin, Neogen Veratox Fumonisin (ppb)	7	5	730.4	318.6	730.4	183.7	102.7	25.15%	71.00	16.77%
620.07	Total Fumonisin, Romer AgraQuant Total Fumonisin (ppb)	3	3	838.3	170.8	838.3	257.2	148.5	30.68%	75.00	16.43%
620.09	Total Fumonisin, r-Biopharm Ridascreen FAST FUM (ppb)	5	3	384.2	76.72	384.2	120.4	69.51	31.34%	15.67	18.47%
620.11	Total Fumonisin, Vicam Fumonitest (ppb)	3	3	790.0	285.1	790.0	242.8	140.2	30.73%	140.0	16.57%
620.16	Total Fumonisin, RANDOX Biochip Array (ppb)	3	3	690.0	137.3	690.0	212.8	122.9	30.85%	57.81	16.92%
620.02	Total Fumonisin, Neogen Veratox Fumonisin 5/10 (ppb)	1	1	850.0							
620.03	Total Fumonisin, Neogen Veratox Fumonisin HS (ppb)	1	1	4,910							
620.12	Total Fumonisin, Vicam Fumonitest 200 (ppb)	1	1	1,010							
620.22	Total Fumonisin, LC-MS (ppb)	1	1	762.5							
621.23	Fumonsin B1, LC-MS/MS (ppb)	17	17	645.1	287.8	575.6	178.4	54.09	31.00%	42.96	17.38%
621.21	Fumonsin B1, LC-FI OPA der. (ppb)	3	3	633.3	205.5	633.3	195.8	113.0	30.92%	94.67	17.14%
621.20	Fumonsin B1, LC (ppb)	2	2	1,385	825.7						
622.23	Fumonisin B2, LC-MS/MS (ppb)	16	14	193.7	87.13	176.0	56.34	18.82	32.01%	15.77	20.78%
622.21	Fumonisin B2, LC-FI OPA der. (ppb)	3	2	166.8	47.02	166.8	53.45			11.50	20.95%
622.20	Fumonisin B2, LC (ppb)	1	1	100.0							
623.23	Fumonisin B3, LC-MS/MS (ppb)	10	8	75.14	21.22	72.04	23.62	10.44	32.79%	14.14	22.00%
630.23	Ochratoxin A, LC-MS/MS (ppb)	16	15	13.54	7.000	12.63	4.341	1.401	34.38%	1.455	22.00%
630.20	Ochratoxin A, LC (ppb)	8	6	12.81	9.182	12.81	4.403	2.247	34.36%	0.5560	22.00%
630.05	Ochratoxin A, r-Biopharm Ridascreen FAST Och A (ppb)	4	4	8.344	3.046	8.344	2.901	1.450	34.77%	1.141	22.00%
630.06	Ochratoxin A, Vicam OchraTest (ppb)	4	4	9.366	3.055	9.366	3.246	1.623	34.66%	1.363	22.00%
630.98	Ochratoxin A, Other Rapid Test Kit (ppb)	4	4	9.703	0.9188	9.703	3.359	1.680	34.62%	0.7750	22.00%

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
630.01	Ochratoxin A, Neogen Veratox Ochratoxin (ppb)	4	3	27.80	40.47	27.80	9.356	5.402	33.65%	2.547	22.00%
630.16	Ochratoxin A, RANDOX Biochip Array (ppb)	3	3	12.56	3.342	12.56	4.319	2.494	34.38%	2.200	22.00%
630.03	Ochratoxin A, Romer AgraQuant Ochratoxin (ppb)	1	1	10.64							
630.21	Ochratoxin A, LC-PCD FI (ppb)	1	1	15.90							
640.23	T-2 Toxin, LC-MS/MS (ppb)	14	13	79.39	26.69	78.97	25.83	8.956	32.71%	9.164	22.00%
640.03	T-2 Toxin, Romer AgraQuant T-2 (ppb)	2	2	106.3	80.84						
640.05	T-2 Toxin, r-Biopharm Ridascreen FAST T-2 (ppb)	2	2	114.8	62.57						
640.16	T-2 Toxin, RANDOX Biochip Array (ppb)	1	1	78.66							
640.20	T-2 Toxin, LC (ppb)	1	1	53.38							
640.21	T-2 Toxin, LC-PCD FI (ppb)	1	1	79.09							
640.98	T-2 Toxin, Other Rapid Test Kit (ppb)	1	1	107.9							
640.25	T-2 Toxin, GC-MS (ppb)	1		20.00							
641.23	HT-2 Toxin, LC-MS/MS (ppb)	11	9	22.80	7.826	23.10	7.813	3.255	33.82%	3.580	22.00%
641.21	HT-2 Toxin, LC post-col photochem der. FI (ppb)	1		30.00							
642.21	T-2 Toxin + HT-2 Toxin, Neogen Veratox T-2 + HT-2 (ppb)	7	6	244.5	184.5	244.5	77.58	39.59	31.72%	14.65	19.77%
642.98	T-2 Toxin + HT-2 Toxin, Other Rapid Test Kit (ppb)	5	5	96.56	8.496	96.56	31.41	14.05	32.53%	14.30	22.00%
642.04	T-2 Toxin + HT-2 Toxin, LC-MS (ppb)	3	3	120.4	36.40	120.4	38.94	22.48	32.34%	14.67	22.00%
642.16	T-2 Toxin + HT-2 Toxin, RANDOX Biochip Array (ppb)	2	2	106.1	64.55						
642.99	T-2 Toxin + HT-2 Toxin, Miscellaneous Technique (ppb)	1	1	77.11							
650.24	Zearalenone, LC-MS/MS (ppb)	15	12	113.4	27.43	112.0	36.29	13.10	32.40%	10.24	22.00%
650.20	Zearalenone, LC (ppb)	10	9	113.5	42.27	119.0	38.51	16.05	32.35%	10.82	22.00%
650.98	Zearalenone, Other Rapid Test Kit (ppb)	7	7	221.3	121.4	221.3	70.41	33.27	31.81%	19.98	20.07%
650.01	Zearalenone, Neogen Veratox Zearalenone (ppb)	5	5	115.1	78.69	115.1	37.27	16.67	32.38%	11.91	22.00%
650.04	Zearalenone, Romer AgraQuant ZON (ppb)	3	3	118.5	15.22	118.5	38.32	22.13	32.35%	6.580	22.00%
650.06	Zearalenone, r-Biopharm Ridascreen FAST ZON (ppb)	3	3	3,991	6,264	3,991	1,174	830.0	29.41%	7,387	12.99%
650.16	Zearalenone, RANDOX Biochip Array (ppb)	3	3	122.0	21.18	122.0	39.44	22.77	32.33%	15.03	21.95%
650.07	Zearalenone, r-Biopharm Ridascreen FAST ZON SC (ppb)	2	2	136.3	50.53						
650.99	Zearalenone, Miscellaneous (ppb)	2	2	84.75	14.50						
650.21	Zearalenone, LC-FI, ISO (ppb)	1	1	121.7							
650.23	Zearalenone, LC-MS (ppb)	1	1	138.0							

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

Distiller's Grains

Test Material Code # 202463

Method Precision Report

Methods Reported: 25

Labs Reporting: 70

Issue Date : 08/31/2024

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)	11	9	9.812	5.999	4.707	0.8057	4.775	55.07%	9.43%	55.87%	5.927
600.20	Total Aflatoxin, LC (ppb)	12	11	8.799	3.482	3.463	0.5099	3.500	39.36%	5.79%	39.78%	6.865
600.98	Total Aflatoxin, Other Rapid Test Kit (ppb)	7	7	6.478	4.771	4.672	1.367	4.868	72.13%	21.10%	75.15%	3.561
601.20	Aflatoxin B1, LC (ppb)	10	9	7.334	2.922	1.349	0.4623	1.426	20.73%	7.10%	21.91%	3.084
601.23	Aflatoxin B1, LC-MS/MS (ppb)	17	12	7.585	4.785	2.895	0.5809	2.952	44.47%	8.92%	45.36%	5.083
602.20	Aflatoxin B2, LC (ppb)	8	6	0.6543	0.4132	0.1311	0.0294	0.1344	25.97%	5.83%	26.61%	4.565
610.01	Deoxynivalenol, Neogen Veratox for DON (ppb)	11	10	1,101	331.7	270.9	104.0	290.2	23.34%	8.95%	25.00%	2.791
610.20	Deoxynivalenol, LC (ppb)	8	8	891.7	280.0	278.5	40.67	281.5	31.24%	4.56%	31.57%	6.921
610.23	Deoxynivalenol, LC-MS/MS (ppb)	19	17	803.4	185.1	177.0	41.51	181.8	22.45%	5.26%	23.06%	4.380
610.98	Deoxynivalenol, Other Rapid Test Kit (ppb)	8	7	992.0	359.2	96.50	183.5	207.4	11.01%	20.94%	23.65%	1.130
620.23	Total Fumonisin, LC-MS/MS (ppb)	6	6	980.8	433.7	430.8	70.04	436.5	43.93%	7.14%	44.51%	6.232
620.98	Total Fumonisin, Other Rapid Test Kit (ppb)	9	9	948.4	165.8	154.9	83.68	176.1	16.33%	8.82%	18.56%	2.104
621.23	Fumonsin B1, LC-MS/MS (ppb)	17	16	645.1	287.8	255.8	45.99	259.9	41.91%	7.54%	42.58%	5.651
622.23	Fumonisin B2, LC-MS/MS (ppb)	16	13	193.7	87.13	42.44	10.78	43.79	24.51%	6.23%	25.28%	4.061
623.23	Fumonisin B3, LC-MS/MS (ppb)	10	6	75.14	21.22	4.312	6.925	8.158	6.63%	10.65%	12.55%	1.178
630.20	Ochratoxin A, LC (ppb)	8	6	12.81	9.182	9.176	0.4391	9.187	71.62%	3.43%	71.71%	20.92
630.23	Ochratoxin A, LC-MS/MS (ppb)	16	14	13.54	7.000	4.378	1.233	4.548	36.15%	10.18%	37.55%	3.688
640.23	T-2 Toxin, LC-MS/MS (ppb)	14	13	79.39	26.69	26.09	7.958	27.28	32.87%	10.02%	34.36%	3.428
641.23	HT-2 Toxin, LC-MS/MS (ppb)	11	9	22.80	7.826	7.475	3.277	8.162	32.78%	14.37%	35.79%	2.491
642.21	T-2 Toxin + HT-2 Toxin, Neogen Veratox T-2 + HT-2 (ppb)	7	5	244.5	184.5	159.3	8.825	159.6	80.99%	4.49%	81.12%	18.08
642.98	T-2 Toxin + HT-2 Toxin, Other Rapid Test Kit (ppb)	5	5	96.56	8.496	1.638	11.79	11.90	1.70%	12.21%	12.33%	1.010
650.01	Zearalenone, Neogen Veratox Zearalenone (ppb)	5	5	115.1	78.69	78.33	10.50	79.04	68.05%	9.13%	68.66%	7.524
650.20	Zearalenone, LC (ppb)	10	8	113.5	42.27	23.49	9.078	25.18	18.74%	7.24%	20.09%	2.774
650.24	Zearalenone, LC-MS/MS (ppb)	15	12	113.4	27.43	26.84	7.946	27.99	23.67%	7.01%	24.69%	3.523
650.98	Zearalenone, Other Rapid Test Kit (ppb)	7	6	221.3	121.4	104.5	13.37	105.4	54.12%	6.92%	54.56%	7.883

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