



**AAFCO**  
Association of American Feed Control Officials



**Mycotoxin Contaminants Scheme**

**Pea Protein**

**Test Material Code # 202261**

**Method Summary Report**

(Precision Report Follows)

**# Labs Reporting: 57**

**# Methods Reported: 80**

**Issue Date : 02/28/2022**

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 (R-bar)	Thompson Horwitz %RSD
600.20	Total Aflatoxin, LC (ppb)	9	9	4.591	1.461	4.591	1.622	0.6758	35.33%	0.4100	22.00%
600.01	Total Aflatoxin, Neogen Veratox Aflatoxin (ppb)	11	7	6.036	1.849	6.036	2.117	1.000	35.07%	1.027	22.00%
600.24	Total Aflatoxin, LC-MS/MS (ppb)	5	4	6.196	2.910	6.196	2.171	1.086	35.05%	0.6160	22.00%
600.98	Total Aflatoxin, Other Rapid Test Kit (ppb)	4	4	5.225	0.9474	5.225	1.840	0.9198	35.21%	0.6000	22.00%
600.12	Total Aflatoxin, r-Biopharm Ridascreen FAST Afl (ppb)	3	3	4.335	1.820	4.335	1.534	0.8857	35.39%	0.2837	22.00%
600.14	Total Aflatoxin, Vicam Aflatest (ppb)	3	3	3.898	0.6099	3.898	1.384	0.7988	35.49%	0.1167	22.00%
600.08	Total Aflatoxin, Romer AgraQuant Total Afl 4-40ppb (ppb)	2	2	6.630	0.3960						
600.13	Total Aflatoxin, r-Biopharm Ridascreen FAST Afl SC (ppb)	2	2	3.025	0.8485						
600.10	Total Aflatoxin, TLC (ppb)	1	1	4.400							
600.22	Total Aflatoxin, Vicam Aflatest, LC-FI (ppb)	1	1	5.900							
600.99	Total Aflatoxin, Miscellaneous (ppb)	1	1	5.500							
601.23	Aflatoxin B1, LC-MS/MS (ppb)	16	15	5.083	0.9535	4.969	1.752	0.5654	35.26%	0.8413	22.00%
601.20	Aflatoxin B1, LC (ppb)	9	9	8.484	13.73	4.256	1.507	0.6278	35.41%	0.5321	22.00%
601.24	Aflatoxin B1, Vicam Aflatest, LC-FI (ppb)	2	2	4.612	1.822						
601.98	Aflatoxin B1, Other Rapid Test Kit (ppb)	1	1	6.750							
602.20	Aflatoxin B2, LC (ppb)	7	6	0.2563	0.1215	0.2563	0.0979	0.0500	38.21%	0.0290	22.00%
602.23	Aflatoxin B2, LC-MS/MS (ppb)	15	2	0.2754	0.1522	0.2754	0.1050	0.0928		0.0120	22.00%
602.24	Aflatoxin B2, Vicam Aflatest, LC-FI (ppb)	2	1	0.1730							
603.20	Aflatoxin G1, LC (ppb)	2	1	2.635							
603.23	Aflatoxin G1, LC-MS/MS (ppb)	15	1								
603.24	Aflatoxin G1, Vicam Aflatest, LC-FI (ppb)	1		15.00							
604.20	Aflatoxin G2, LC (ppb)	1		0.2500							
604.21	Aflatoxin G2, LC-PCD FI (ppb)	1		0.0100							
604.23	Aflatoxin G2, LC-MS/MS (ppb)	14									
604.24	Aflatoxin G2, Vicam Aflatest, LC-FI (ppb)	1		5.000							
610.23	Deoxynivalenol, LC-MS/MS (ppb)	15	14	932.2	276.1	957.8	292.8	97.83	30.57%	63.43	16.10%
610.01	Deoxynivalenol, Neogen Veratox for DON (ppb)	10	10	1,243	201.0	1,243	377.4	149.2	30.36%	116.0	15.48%
610.05	Deoxynivalenol, Romer AgraQuant DON (ppb)	3	3	1,223	490.3	1,223	371.3	262.6	30.37%	33.33	15.52%
610.07	Deoxynivalenol, r-Biopharm Ridascreen FAST DON (ppb)	3	3	1,018	74.55	1,018	310.8	179.4	30.52%	164.3	15.95%

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 (R-bar)	Thompson Horwitz %RSD
610.20	Deoxynivalenol, LC (ppb)	4	3	918.5	110.4	918.5	281.1	198.8	30.61%	1.000	16.20%
610.98	Deoxynivalenol, Other Rapid Test Kit (ppb)	3	3	1,497	333.2	1,497	452.1	261.0	30.20%	93.33	15.05%
610.99	Deoxynivalenol, Miscellaneous (ppb)	3	3	1,356	327.7	1,356	410.8	237.2	30.28%	11.67	15.28%
610.08	Deoxynivalenol, r-Biopharm Ridascreen FAST DON SC (ppb)	2	2	1,255	339.8						
610.06	Deoxynivalenol, r-Biopharm Ridascreen DON (ppb)	1	1	920.0							
610.25	Deoxynivalenol, GC-MS (ppb)	1	1	1,568							
620.01	Total Fumonisin, Neogen Veratox Fumonisin (ppb)	9	6	662.5	137.5	<b>662.5</b>	204.6	104.4	30.88%	135.0	17.02%
620.09	Total Fumonisin, r-Biopharm Ridascreen FAST FUM (ppb)	6	6	824.0	295.8	<b>815.3</b>	250.3	127.8	30.71%	99.67	16.50%
620.23	Total Fumonisin, LC-MS/MS (ppb)	5	4	762.8	41.92	762.8	240.9	139.1	31.58%	105.5	16.66%
620.98	Total Fumonisin, Other Rapid Test Kit (ppb)	4	4	1,331	494.2	1,331	403.2	201.6	30.30%	116.0	15.32%
620.07	Total Fumonisin, Romer AgraQuant Total Fumonisin (ppb)	3	3	899.8	168.8	899.8	275.5	194.8	30.62%	10.00	16.25%
620.02	Total Fumonisin, Neogen Veratox Fumonisin 5/10 (ppb)	1	1	780.0							
620.12	Total Fumonisin, Vicam Fumonitest 200 (ppb)	1	1	0.6850							
620.99	Total Fumonisin, Miscellaneous (ppb)	1	1	852.0							
620.11	Total Fumonisin, Vicam Fumonitest (ppb)	1		200.0							
621.23	Fumonsin B1, LC-MS/MS (ppb)	15	15	444.5	138.7	<b>444.8</b>	138.8	44.81	31.21%	51.01	18.07%
621.20	Fumonsin B1, LC (ppb)	2	1	467.8							
621.21	Fumonsin B1, LC-FI OPA der. (ppb)	1		200.0							
622.23	Fumonisin B2, LC-MS/MS (ppb)	15	14	170.3	59.92	<b>167.4</b>	53.65	17.92	32.05%	14.36	20.93%
622.20	Fumonisin B2, LC (ppb)	1	1	155.5							
622.21	Fumonisin B2, LC-FI OPA der. (ppb)	1		200.0							
623.23	Fumonisin B3, LC-MS/MS (ppb)	9	4	42.77	21.92	42.77	14.23	8.891	33.26%	1.560	22.00%
630.23	Ochratoxin A, LC-MS/MS (ppb)	15	14	14.16	8.520	<b>12.36</b>	4.253	1.421	34.40%	1.194	22.00%
630.20	Ochratoxin A, LC (ppb)	10	10	12.18	4.898	<b>12.18</b>	4.190	1.656	34.41%	1.258	22.00%
630.05	Ochratoxin A, r-Biopharm Ridascreen FAST Och A (ppb)	3	3	10.31	3.791	10.31	3.565	2.058	34.57%	1.244	22.00%
630.01	Ochratoxin A, Neogen Veratox Ochratoxin (ppb)	2	2	5.665	0.2334						
630.03	Ochratoxin A, Romer AgraQuant Ochratoxin (ppb)	2	2	18.00	0.6223						
630.06	Ochratoxin A, Vicam OchraTest (ppb)	2	2	11.22	1.810						
630.04	Ochratoxin A, r-Biopharm Ridascreen Ochratoxin A (ppb)	1	1	6.020							
630.98	Ochratoxin A, Other Rapid Test Kit (ppb)	1	1	13.50							
630.99	Ochratoxin A, Miscellaneous (ppb)	1	1	181.5							
640.23	T-2 Toxin, LC-MS/MS (ppb)	12	12	316.3	64.31	<b>313.6</b>	98.83	35.66	31.51%	28.99	19.05%
640.03	T-2 Toxin, Romer AgraQuant T-2 (ppb)	3	3	389.5	29.81	389.5	122.0	86.28	31.33%	12.16	18.44%
640.98	T-2 Toxin, Other Rapid Test Kit (ppb)	2	2	1,314	1,468						
640.05	T-2 Toxin, r-Biopharm Ridascreen FAST T-2 (ppb)	1	1	295.9							
640.25	T-2 Toxin, GC-MS (ppb)	1	1	283.5							
641.23	HT-2 Toxin, LC-MS/MS (ppb)	9	9	90.57	16.07	<b>89.25</b>	29.10	12.12	32.60%	9.277	22.00%
642.21	T-2 Toxin + HT-2 Toxin, Neogen Veratox T-2 + HT-2 (ppb)	4	4	588.3	355.8	588.3	182.2	91.12	30.98%	37.50	17.33%
642.98	T-2 Toxin + HT-2 Toxin, Other Rapid Test Kit (ppb)	4	3	277.8	45.24	277.8	87.82	50.70	31.62%	27.70	19.40%
642.99	T-2 Toxin + HT-2 Toxin, Miscellaneous Technique (ppb)	2	2	256.6	17.17						

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 (R-bar)	Thompson Horwitz %RSD
642.04	T-2 Toxin + HT-2 Toxin, LC-MS (ppb)	1	1	479.5							
650.24	Zearalenone, LC-MS/MS (ppb)	13	<b>13</b>	195.5	80.39	<b>183.6</b>	58.69	20.35	31.97%	33.44	20.65%
650.20	Zearalenone, LC (ppb)	7	<b>7</b>	215.9	157.2	<b>177.9</b>	56.94	26.90	32.00%	27.24	20.74%
650.01	Zearalenone, Neogen Veratox Zearalenone (ppb)	6	<b>6</b>	157.4	45.02	<b>155.5</b>	49.95	25.49	32.12%	5.670	21.17%
650.06	Zearalenone, r-Biopharm Ridascreen FAST ZON (ppb)	4	4	123.6	9.258	123.6	39.94	19.97	32.32%	24.36	21.91%
650.04	Zearalenone, Romer AgraQuant ZON (ppb)	3	3	177.8	40.27	177.8	56.91	40.24	32.00%	0.0300	20.74%
650.07	Zearalenone, r-Biopharm Ridascreen FAST ZON SC (ppb)	3	3	135.8	22.38	135.8	43.78	25.28	32.23%	7.233	21.60%
650.98	Zearalenone, Other Rapid Test Kit (ppb)	3	3	226.6	123.7	226.6	72.03	41.59	31.79%	29.77	20.00%
650.21	Zearalenone, LC-FI, ISO (ppb)	2	2	167.4	46.14						
650.99	Zearalenone, Miscellaneous (ppb)	2	2	160.0	226.2						
650.23	Zearalenone, LC-MS (ppb)	1	1	129.5							

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**

**Pea Protein**

**Test Material Code # 202261**

**Method Precision Report**

**# Methods Reported: 18**

**# Labs Reporting: 57**

**Issue Date : 02/28/2022**

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	7	6.036	1.849	1.753	0.8314	1.940	29.03%	13.77%	32.13%	2.333
600.20	Total Aflatoxin, LC (ppb)	9	8	4.591	1.461	1.474	0.2460	1.495	33.21%	5.54%	33.67%	6.077
601.20	Aflatoxin B1, LC (ppb)	9	8	8.484	13.73	1.266	0.2257	1.286	32.24%	5.75%	32.75%	5.696
601.23	Aflatoxin B1, LC-MS/MS (ppb)	16	14	5.083	0.9535	0.6100	0.7019	0.9300	12.36%	14.23%	18.85%	1.325
602.20	Aflatoxin B2, LC (ppb)	7	5	0.2563	0.1215	0.1252	0.0171	0.1264	52.69%	7.19%	53.18%	7.400
610.01	Deoxynivalenol, Neogen Veratox for DON (ppb)	10	10	1,243	201.0	186.0	108.0	215.1	14.96%	8.69%	17.30%	1.991
610.23	Deoxynivalenol, LC-MS/MS (ppb)	15	12	932.2	276.1	201.6	46.03	206.8	20.35%	4.65%	20.87%	4.492
620.01	Total Fumonisin, Neogen Veratox Fumonisin (ppb)	9	6	662.5	137.5	110.1	116.4	160.2	16.62%	17.57%	24.18%	1.377
620.09	Total Fumonisin, r-Biopharm Ridascreen FAST FUM (ppb)	6	5	824.0	295.8	167.7	52.12	175.6	23.27%	7.23%	24.36%	3.369
621.23	Fumonsin B1, LC-MS/MS (ppb)	15	14	444.5	138.7	119.9	43.59	127.6	28.14%	10.23%	29.94%	2.928
622.23	Fumonisin B2, LC-MS/MS (ppb)	15	14	170.3	59.92	58.68	17.15	61.13	34.45%	10.07%	35.89%	3.565
630.20	Ochratoxin A, LC (ppb)	10	9	12.18	4.898	4.984	0.5807	5.018	42.39%	4.94%	42.68%	8.641
630.23	Ochratoxin A, LC-MS/MS (ppb)	15	12	14.16	8.520	2.601	0.8606	2.739	21.63%	7.16%	22.78%	3.183
640.23	T-2 Toxin, LC-MS/MS (ppb)	12	11	316.3	64.31	51.07	16.51	53.67	16.76%	5.42%	17.62%	3.251
641.23	HT-2 Toxin, LC-MS/MS (ppb)	9	8	90.57	16.07	16.77	5.267	17.57	18.51%	5.81%	19.40%	3.336
650.01	Zearalenone, Neogen Veratox Zearalenone (ppb)	6	5	157.4	45.02	46.53	2.707	46.61	28.31%	1.65%	28.36%	17.22
650.20	Zearalenone, LC (ppb)	7	6	215.9	157.2	47.41	15.78	49.97	29.84%	9.93%	31.45%	3.167
650.24	Zearalenone, LC-MS/MS (ppb)	13	12	195.5	80.39	43.15	15.33	45.79	24.44%	8.68%	25.94%	2.987

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