



**Animal Feed Scheme**  
**Beef Mineral**  
**Test Material Code # 201995**

**Method Summary Report**  
(Precision Report Follows)

**# Labs Reporting: 173**  
**# Methods Reported: 323**  
**Issue Date : 06/30/2019**

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
000.02	Urea, As protein, Colorimetric (%)	1	1	0.1000							
001.00	Loss on Drying, Vac 95°C 5 hr (%)	3	3	3.290	0.3594	3.290	0.3594	0.2075	10.92%	0.0670	3.34%
001.03	Loss on Drying, Low temp. methods (%)	3	3	3.648	0.6242	3.648	0.6242	0.3604	17.11%	0.0900	3.29%
001.05	Loss on Drying, LECO (%)	2	2	2.978	0.0530						
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	43	42	3.347	0.4328	3.307	0.2927	0.0565	8.85%	0.1205	3.34%
001.99	Loss on Drying, Miscellaneous (%)	18	17	3.646	1.150	3.440	0.5634	0.1708	16.38%	0.1198	3.32%
002.01	Protein, Crude, Auto Kjel-Foss (%)	9	8	4.378	0.1577	4.358	0.1291	0.0571	2.96%	0.0960	3.20%
002.04	Protein, Crude, Copper Catalyst (%)	3	3	6.688	4.081	6.688	4.081	2.885	61.01%	0.1033	3.00%
002.05	Protein, Crude, Copper, Boric Acid (%)	9	9	4.508	0.4016	4.404	0.1374	0.0573	3.12%	0.0397	3.20%
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	51	49	4.357	0.5852	4.434	0.2357	0.0421	5.31%	0.1222	3.20%
002.11	Protein, Crude, NIR (%)	2	2	15.50	7.135						
002.99	Protein, Crude, Miscellaneous (%)	1	1	5.095							
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	3	3	1.708	0.2760	1.708	0.2760	0.1593	16.15%	0.1433	3.69%
003.06	Fat, Crude, Pet Ether (%)	5	5	1.837	0.3944	1.837	0.3944	0.1764	21.47%	0.0840	3.65%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	5	5	1.661	0.4146	1.661	0.4146	0.1854	24.96%	0.0559	3.71%
003.10	Fat, Crude, Randall, Pet Ether (%)	10	10	1.497	0.3014	1.511	0.3087	0.1220	20.43%	0.1120	3.76%
003.11	Fat, Crude, NIR (%)	2	2	3.245	0.9970						
003.12	Fat, Crude, Hexane Ext (%)	1	1	1.500							
003.13	Fat, Crude, Randall, Hexane Ext. (%)	1	1	1.810							
003.14	Fat, Crude, Ankom (%)	19	18	1.203	0.2255	1.209	0.2388	0.0703	19.75%	0.1076	3.89%
003.99	Fat, Crude, Miscellaneous (%)	1	1	1.550							
004.00	Fiber, Crude, Asbestos Free (%)	6	6	2.199	0.2432	2.198	0.2758	0.1408	12.55%	0.1290	3.55%
004.01	Fiber, Crude, Sing Filt (%)	1	1	2.135							
004.03	Fiber, Crude, Fritted Glass (%)	1	1	1.860							
004.06	Fiber, Crude, Fibertec (%)	5	4	2.129	0.4350	2.129	0.4350	0.2511	20.44%	0.0483	3.57%
004.07	Fiber, Crude, ANKOM (%)	16	15	2.788	0.9302	2.788	1.055	0.3404	37.84%	0.1665	3.43%
004.11	Fiber, Crude, NIR (%)	3	3	5.278	1.263	5.278	1.263	0.7294	23.94%	0.1367	3.11%
005.00	Ash, 2h @ 600°C (%)	85	83	65.37	1.352	65.48	1.143	0.1568	1.75%	0.3932	1.24%
005.02	Ash, LECO (%)	2	2	65.77	0.1025						
005.05	Ash, 3h @ 550°C (%)	30	29	66.90	1.646	66.69	1.023	0.2376	1.53%	0.2881	1.22%

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005.11	Ash, NIR (%)	2	2	64.97	8.221						
005.99	Ash, Miscellaneous (%)	5	4	67.06	0.4322	67.06	0.4322	0.2161	0.64%	0.1665	1.22%
006.00	Total Sugars, As sucrose (%)	1	1	1.290							
006.99	Total Sugars, Miscellaneous (%)	1	1	1.250							
008.02	Fiber, Acid Detergent, Crucible (%)	3	3	2.994	0.6201	2.994	0.6201	0.3580	20.71%	0.4863	3.39%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	4.410							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	12	12	3.000	0.6081	2.965	0.6058	0.2186	20.43%	0.1658	3.40%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	1	1	8.705							
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	14	13	7.797	1.656	7.524	1.043	0.3616	13.86%	0.2424	2.95%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	1	1	6.850							
010.03	Moisture, Karl-Fischer (%)	2	2	3.433	0.8096						
010.11	Moisture, NIR (%)	2	2	5.025	2.461						
010.99	Moisture, Miscellaneous (%)	10	9	3.994	1.692	3.622	0.8437	0.3516	23.29%	0.0578	3.30%
011.01	Loss on Drying, 135°C 2hr (%)	57	56	5.107	0.7314	5.199	0.5455	0.0911	10.49%	0.1454	3.12%
011.02	Loss on Drying, 130°C for 2 hours (%)	2	2	4.290	0.6081						
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	2	2	5.798	1.057						
012.00	Starch, Polarimetric (Ewers) (%)	2	1	0.8500							
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	7	7	4.687	4.531	3.526	1.981	0.9361	56.19%	0.4909	3.31%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	1	1	1.290							
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	2	2	1.975	0.1768						
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	6	6	2.501	0.8525	2.473	0.9018	0.4602	36.46%	0.1900	3.49%
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	11	11	2.550	0.6477	2.550	0.7345	0.2768	28.80%	0.1161	3.47%
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	3	3	1.888	0.0928	1.888	0.0928	0.0536	4.91%	0.0967	3.63%
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	3	3	2.706	0.3002	2.706	0.3002	0.1733	11.09%	0.3988	3.44%
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	5	4	1,289	171.1	1,289	171.1	85.56	13.28%	22.13	5.44%
015.42	Aluminum, ICP, Open vessel (mg / kg (ppm))	1	1	1,521							
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	6	6	1,345	79.36	1,345	89.99	45.92	6.69%	46.76	5.41%
015.52	Aluminum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	1,338							
015.53	Aluminum, ICP-MS, Microwave (mg / kg (ppm))	2	2	1,473	208.1						
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	4	4	12.83	7.706	12.83	7.706	3.853	60.05%	1.872	10.89%
017.42	Boron, ICP, Open vessel (mg / kg (ppm))	5	4	14.69	10.71	14.69	10.71	5.353	72.88%	0.7755	10.68%
017.43	Boron, ICP, Microwave (mg / kg (ppm))	5	3	15.27	3.223	15.27	3.223	1.861	21.11%	0.3983	10.61%
017.53	Boron, ICP-MS, Microwave (mg / kg (ppm))	1	1	27.96							
019.00	Calcium, Ox-Mn04 Vol. (%)	11	10	14.35	1.553	13.98	0.6022	0.2380	4.31%	0.0757	2.67%
019.02	Calcium, Hach Method (%)	1	1	14.66							
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	13.71							
019.08	Calcium, EDTA (%)	10	10	15.32	2.602	15.30	2.913	1.151	19.03%	0.1139	2.56%
019.31	Calcium, AAS, Dry ash (%)	18	18	14.03	1.176	14.04	1.012	0.2981	7.20%	0.1476	2.67%
019.32	Calcium, AAS, Open vessel (%)	2	2	13.86	0.7248						
019.33	Calcium, AAS, Microwave (%)	1	1	14.48							

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019.41	Calcium, ICP, Dry ash (%)	25	24	13.56	1.074	13.58	0.9567	0.2441	7.04%	0.2914	2.70%
019.42	Calcium, ICP, Open vessel (%)	22	22	13.71	1.126	13.72	1.190	0.3172	8.68%	0.2564	2.70%
019.43	Calcium, ICP, Microwave (%)	27	26	13.11	2.673	13.42	0.9439	0.2314	7.03%	0.1840	2.71%
019.44	Calcium, ICP, Dry ash (%)	1	1	14.00							
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	13.97	2.141	13.97	2.141	1.236	15.33%	0.7045	2.68%
019.53	Calcium, ICP-MS, Microwave (%)	4	4	12.76	1.308	12.76	1.308	0.6538	10.25%	0.5375	2.73%
019.99	Calcium, Miscellaneous (%)	4	4	13.04	0.9019	13.04	0.9019	0.4509	6.91%	0.4725	2.72%
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	4	4	29.19	11.11	29.19	11.11	5.553	38.05%	1.238	9.63%
021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	5	5	24.19	8.105	24.19	8.105	3.625	33.51%	0.7303	9.90%
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	8	8	31.19	4.833	30.54	3.837	1.696	12.57%	1.442	9.56%
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	9	9	33.55	4.093	33.48	3.993	1.664	11.93%	1.373	9.43%
021.51	Cobalt, ICP-MS, Dry ash (mg / kg (ppm))	1	1	34.81							
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	3	3	37.54	6.290	37.54	6.290	4.447	16.76%	2.063	9.27%
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	6	5	36.20	1.922	36.20	1.922	1.074	5.31%	1.089	9.32%
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	15	15	1,430	44.88	1,429	49.20	15.88	3.44%	20.80	5.36%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	1	1	1,557							
022.33	Copper, AAS, Microwave (mg / kg (ppm))	2	2	1,458	103.1						
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	24	23	1,399	118.8	1,394	122.0	31.81	8.75%	33.97	5.38%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	23	22	1,437	86.60	1,436	95.64	25.49	6.66%	53.79	5.36%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	26	25	1,440	105.7	1,443	102.6	25.65	7.11%	42.96	5.35%
022.44	Copper, ICP, Dry ash (mg / kg (ppm))	1	1	1,631							
022.51	Copper, ICP-MS, Dry ash (mg / kg (ppm))	1	1	1,375							
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	2	2	1,335	188.8						
022.53	Copper, ICP-MS, Microwave (mg / kg (ppm))	4	4	1,416	33.13	1,416	33.13	16.56	2.34%	69.68	5.37%
022.99	Copper, Miscellaneous (mg / kg (ppm))	2	2	1,419	8.485						
024.03	Iodine, Ion-selective electrode (mg / kg (ppm))	1	1	113.0							
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	15	14	4,240	855.0	4,282	805.7	269.2	18.82%	68.91	4.54%
025.32	Iron, AAS, Open vessel (mg / kg (ppm))	1	1	4,722							
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	24	24	4,328	595.8	4,401	515.3	131.5	11.71%	123.4	4.53%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	17	17	4,698	372.7	4,695	416.1	126.1	8.86%	146.0	4.48%
025.43	Iron, ICP, Microwave (mg / kg (ppm))	21	21	4,530	289.3	4,519	290.9	79.34	6.44%	104.0	4.51%
025.52	Iron, ICP-MS, Open vessel (mg / kg (ppm))	2	2	2,836	2,515						
025.53	Iron, ICP-MS, Microwave (mg / kg (ppm))	3	3	4,596	339.7	4,596	339.7	240.2	7.39%	96.13	4.50%
025.99	Iron, Miscellaneous (mg / kg (ppm))	2	2	4,388	661.9						
027.31	Magnesium, AAS, Dry ash (%)	16	16	1.792	0.2885	1.844	0.1207	0.0377	6.55%	0.0535	3.65%
027.32	Magnesium, AAS, Open vessel (%)	2	2	1.797	0.0527						
027.33	Magnesium, AAS, Microwave (%)	2	2	1.808	0.0460						
027.41	Magnesium, ICP, Dry ash (%)	23	23	1.833	0.1468	1.825	0.1230	0.0321	6.74%	0.0676	3.65%
027.42	Magnesium, ICP, Open vessel (%)	23	23	1.804	0.1420	1.799	0.1510	0.0394	8.39%	0.0652	3.66%
027.43	Magnesium, ICP, Microwave (%)	25	25	1.770	0.3884	1.802	0.1729	0.0432	9.60%	0.0569	3.66%

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027.44	Magnesium, ICP, Dry ash (%)	1	1	1.825							
027.51	Magnesium, ICP-MS, Dry ash (%)	1	1	1.800							
027.52	Magnesium, ICP-MS, Open vessel (%)	3	3	1.781	0.2889	1.781	0.2889	0.1668	16.23%	0.1983	3.67%
027.53	Magnesium, ICP-MS, Microwave (%)	4	4	1.806	0.2076	1.806	0.2076	0.1038	11.49%	0.0775	3.66%
027.99	Magnesium, Miscellaneous (%)	3	3	1.921	0.0795	1.921	0.0795	0.0562	4.14%	0.0699	3.63%
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	13	13	3,024	203.1	3,009	193.4	67.04	6.43%	58.24	4.79%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	1	1	3,248							
028.33	Manganese, AAS, Microwave (mg / kg (ppm))	2	2	2,824	299.1						
028.34	Manganese, AAS, Dry ash (mg / kg (ppm))	1	1	2,920							
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	20	2,828	282.5	2,857	251.9	70.40	8.82%	78.47	4.83%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	22	22	2,883	718.3	2,992	389.6	103.8	13.02%	69.31	4.80%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	23	23	2,948	286.7	2,911	206.9	53.93	7.11%	88.27	4.82%
028.44	Manganese, ICP, Dry ash (mg / kg (ppm))	2	2	3,067	2.560						
028.51	Manganese, ICP-MS, Dry ash (mg / kg (ppm))	1	1	2,992							
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm))	2	2	3,293	16.62						
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	5	5	2,959	216.8	2,959	216.8	96.94	7.33%	139.8	4.80%
028.99	Manganese, Miscellaneous (mg / kg (ppm))	2	2	2,828	441.9						
031.00	Phosphorus, Vol (%)	1	1	4.915							
031.01	Phosphorus, Photometric (%)	38	35	4.907	0.2383	4.907	0.2415	0.0510	4.92%	0.0610	3.15%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	3	3	5.018	0.0828	5.018	0.0828	0.0478	1.65%	0.0633	3.14%
031.03	Phosphorus, Autoanalyzer (%)	3	3	5.169	0.1439	5.169	0.1439	0.0831	2.78%	0.0668	3.12%
031.06	Phosphorus, Hach Method (%)	1	1	2.095							
031.41	Phosphorus, ICP, Dry ash (%)	25	25	4.858	0.9201	4.966	0.4655	0.1164	9.37%	0.1564	3.14%
031.42	Phosphorus, ICP, Open vessel (%)	21	21	5.121	0.4620	5.079	0.3316	0.0904	6.53%	0.1156	3.13%
031.43	Phosphorus, ICP, Microwave (%)	24	24	5.039	0.3216	5.056	0.2612	0.0666	5.16%	0.0957	3.13%
031.44	Phosphorus, ICP, Dry ash (%)	2	2	5.138	0.3359						
031.51	Phosphorus, ICP-MS, Dry ash (%)	1	1	4.935							
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	4.381	1.101						
031.53	Phosphorus, ICP-MS, Microwave (%)	4	4	4.880	0.5149	4.880	0.5149	0.2574	10.55%	0.4400	3.15%
031.99	Phosphorus, Miscellaneous (%)	5	5	4.361	1.071	4.361	1.071	0.4789	24.56%	0.0493	3.20%
032.02	Potassium, Flame Emission (%)	1	1	1.895							
032.31	Potassium, AAS, Dry ash (%)	13	13	1.891	0.0995	1.898	0.0818	0.0284	4.31%	0.0452	3.63%
032.32	Potassium, AAS, Open vessel (%)	2	2	1.863	0.0177						
032.41	Potassium, ICP, Dry ash (%)	24	24	1.947	0.2983	1.923	0.1493	0.0381	7.76%	0.0702	3.62%
032.42	Potassium, ICP, Open vessel (%)	20	19	2.049	0.2952	2.000	0.2064	0.0592	10.32%	0.0520	3.60%
032.43	Potassium, ICP, Microwave (%)	26	25	1.986	0.1643	1.980	0.1728	0.0432	8.73%	0.0429	3.61%
032.44	Potassium, ICP, Dry ash (%)	1	1	1.915							
032.51	Potassium, ICP-MS, Dry ash (%)	1	1	1.890							
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	1.596	0.4511						
032.53	Potassium, ICP-MS, Microwave (%)	4	4	1.864	0.1974	1.864	0.1974	0.0987	10.59%	0.1525	3.64%

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032.99	Potassium, Miscellaneous (%)	3	3	2.009	0.1921	2.009	0.1921	0.1109	9.56%	0.0283	3.60%
033.00	Salt as chloride, Sol Cl (%)	18	18	19.79	4.386	20.84	1.778	0.5238	8.53%	0.1806	2.19%
033.01	Salt as chloride, Poten Cl (%)	30	29	21.96	0.6558	21.89	0.5135	0.1192	2.35%	0.3147	2.14%
033.03	Salt as chloride, Quantab (%)	6	5	23.32	4.193	23.32	4.193	2.344	17.99%	0.0060	2.07%
033.05	Salt as chloride, Ion Sel Electrode (%)	1	1	22.29							
033.99	Salt, Miscellaneous (%)	10	10	16.29	7.731	16.29	8.767	3.465	53.83%	0.2086	2.48%
034.01	Selenium, Fluor (mg / kg (ppm))	1	1	23.23							
034.04	Selenium, AA, Hydride (mg / kg (ppm))	4	4	22.10	1.548	22.10	1.548	0.7740	7.01%	0.6850	10.04%
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	3	3	18.56	3.511	18.56	3.511	2.027	18.92%	1.200	10.31%
034.42	Selenium, ICP, Open vessel (mg / kg (ppm))	3	3	22.26	4.173	22.26	4.173	2.409	18.75%	2.553	10.03%
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	5	4	26.83	1.559	26.83	1.559	0.7793	5.81%	0.3096	9.75%
034.51	Selenium, ICP-MS, Dry Ash (mg / kg (ppm))	1	1	19.23							
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	4	4	23.65	1.139	23.65	1.139	0.5695	4.82%	0.6325	9.94%
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	13	13	23.67	2.423	23.72	2.156	0.7473	9.09%	1.171	9.93%
034.99	Selenium, Miscellaneous (mg / kg (ppm))	1	1	22.40							
035.02	Sodium, Em Spect (%)	1	1	7.850							
035.05	Sodium, Flame Emission (%)	3	3	5.354	1.977	5.354	1.977	1.398	36.92%	0.1053	3.11%
035.31	Sodium, AAS, Dry ash (%)	15	14	7.672	0.6043	7.668	0.6767	0.2261	8.83%	0.0957	2.94%
035.32	Sodium, AAS, Open vessel (%)	1	1	7.545							
035.41	Sodium, ICP, Dry ash (%)	22	22	7.786	0.7000	7.709	0.5348	0.1425	6.94%	0.2605	2.94%
035.42	Sodium, ICP, Open vessel (%)	19	19	7.631	0.5420	7.678	0.4806	0.1378	6.26%	0.2337	2.94%
035.43	Sodium, ICP, Microwave (%)	21	21	7.604	0.6210	7.559	0.5012	0.1367	6.63%	0.1535	2.95%
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	7.650							
035.52	Sodium, ICP-MS, Open vessel (%)	1	1	7.835							
035.53	Sodium, ICP-MS, Microwave (%)	4	4	7.756	0.8243	7.756	0.8243	0.4122	10.63%	0.7925	2.94%
035.99	Sodium, Miscellaneous (%)	3	3	7.265	0.8817	7.265	0.8817	0.5091	12.14%	0.4226	2.97%
036.04	Sulfur, LECO (%)	4	3	0.8402	0.0988	0.8402	0.0988	0.0698	11.76%	0.0003	4.11%
036.42	Sulfur, ICP, Open vessel (%)	22	21	0.9179	0.1139	0.9091	0.0977	0.0266	10.75%	0.0200	4.06%
036.43	Sulfur, ICP, Microwave (%)	16	15	0.8964	0.0967	0.8856	0.0839	0.0271	9.47%	0.0412	4.07%
036.52	Sulfur, ICP-MS, Open vessel (%)	2	2	0.8499	0.1176						
036.53	Sulfur, ICP-MS, Microwave (%)	3	3	0.9010	0.0599	0.9010	0.0599	0.0346	6.65%	0.0760	4.06%
036.99	Sulfur, Miscellaneous (%)	2	2	0.8755	0.2397						
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	15	14	3,553	186.9	3,553	211.1	70.54	5.94%	64.58	4.67%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	1	1	3,834							
037.33	Zinc, AAS, Microwave (mg / kg (ppm))	2	2	3,526	260.9						
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	23	22	3,424	386.6	3,446	378.0	100.7	10.97%	104.3	4.70%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	22	22	3,675	377.9	3,675	428.5	114.2	11.66%	102.5	4.65%
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	26	26	3,567	269.2	3,561	219.6	53.84	6.17%	57.69	4.67%
037.44	Zinc, ICP, Dry ash (mg / kg (ppm))	2	2	3,482	62.31						
037.51	Zinc, ICP-MS, Dry ash (mg / kg (ppm))	1	1	3,538							

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	2	2	3,460	615.2						
037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	4	4	3,721	225.9	3,721	225.9	113.0	6.07%	300.3	4.64%
037.99	Zinc, Miscellaneous (mg / kg (ppm))	3	3	3,545	171.0	3,545	171.0	98.74	4.82%	150.9	4.68%
038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	2	2	5.795	1.042						
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	4	4	11.28	1.241	11.28	1.241	0.6205	11.00%	0.5900	11.11%
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	7	7	10.11	0.6151	10.11	0.6976	0.3296	6.90%	0.5740	11.29%
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm))	2	2	10.81	1.690						
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	5	5	11.73	0.9431	11.73	0.9431	0.4218	8.04%	0.6511	11.04%
040.42	Barium, ICP, Open vessel (mg / kg (ppm))	1	1	6.815							
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	2	2	7.387	1.093						
041.43	Vanadium, ICP, Microwave (mg / kg (ppm))	1	1	22.00							
041.53	Vanadium, ICP-MS, Microwave (mg / kg (ppm))	3	3	23.07	2.602	23.07	2.602	1.502	11.28%	1.460	9.97%
042.00	Chloride, Titrimetric (%)	4	4	13.60	0.4456	13.60	0.4456	0.2228	3.28%	0.2143	2.70%
042.02	Chloride, Ion Chromatography (%)	1	1	126.5							
042.99	Chloride, Miscellaneous (%)	2	2	13.63	0.2015						
101.01	Choline Chloride, Chem (mg / kg (ppm))	2	2	1,831	688.4						
102.01	Niacin, Microbiological (mg / kg (ppm))	1	1	156.5							
102.02	Niacin, LC (mg / kg (ppm))	2	2	130.9	11.25						
103.01	Pantothenic Acid, Microbiological (mg / kg (ppm))	1	1	58.50							
103.02	Pantothenic Acid, LC (mg / kg (ppm))	2	2	80.62	7.259						
104.00	Riboflavin, Fluorometric (mg / kg (ppm))	1	1	29.65							
104.03	Riboflavin, LC (mg / kg (ppm))	2	2	27.64	0.5162						
106.00	Vitamin A, Color (KU / kg)	2	2	436.3	94.38						
106.01	Vitamin A, UV (KU / kg)	1	1	480.5							
106.02	Vitamin A, LC (KU / kg)	17	17	421.7	104.1	430.7	96.50	29.26	22.41%	25.66	
107.00	Vitamin B12, Microbiological (µg / kg (ppb))	1	1	77.25							
108.01	Vitamin D3, LC, AOAC (KU / kg)	1	1	12.50							
108.02	Vitamin D3, LC (KU / kg)	6	6	68.32	16.28	69.21	16.35	8.341	23.62%	7.745	
108.99	Vitamin D3, Miscellaneous (KU / kg)	1	1	74.90							
109.02	Vitamin E, LC (IU / kg)	14	14	355.3	114.3	359.4	86.98	29.06	24.20%	19.38	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	362.0							
112.01	Pyridoxine, LC (µg / g)	1	1	0.4700							
113.01	Folic Acid, Micro (mg / kg (ppm))	1	1	0.1740							
114.01	Biotin, Microbiological (mg / kg (ppm))	1	1	0.1445							
120.00	Alanine, Post-col Ninhydrin Der (%)	7	7	0.2603	0.0291	0.2603	0.0330	0.0156	12.67%	0.0044	4.90%
120.05	Alanine, Pre-col AQC Der (%)	1	1	0.2255							
121.00	Arginine, Post-col Ninhydrin Der (%)	7	7	0.1919	0.0166	0.1919	0.0189	0.0089	9.83%	0.0047	5.13%
121.05	Arginine, Pre-col AQC Der (%)	1	1	0.1235							
122.00	Aspartic, Post-col Ninhydrin Der (%)	7	7	0.2613	0.0198	0.2623	0.0201	0.0095	7.64%	0.0056	4.89%
122.05	Aspartic, Pre-col AQC Der (%)	1	1	0.1100							

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
124.00	Cysteine/Cystine, PAO Post-col Ninhydryn (%)	7	7	0.0762	0.0222	0.0755	0.0198	0.0093	26.18%	0.0038	5.90%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	1		0.0000							
125.00	Glutamic, Post-col Ninhydryn Der (%)	7	7	0.6483	0.0362	0.6483	0.0410	0.0194	6.33%	0.0144	4.27%
125.05	Glutamic, Pre-col AQC Der (%)	1	1	0.2705							
126.00	Glycine, Post-col Ninhydryn Der (%)	7	7	0.2034	0.0125	0.2042	0.0121	0.0057	5.94%	0.0043	5.08%
126.05	Glycine, Pre-col AQC Der (%)	1	1	0.1350							
127.00	Histidine, Post-col Ninhydryn Der (%)	7	7	0.0871	0.0397	0.0871	0.0450	0.0213	51.66%	0.0014	5.78%
127.05	Histidine, Pre-col AQC Der (%)	1		0.0000							
128.00	Isoleucine, Post-col Ninhydryn Der (%)	7	6	0.1223	0.0092	0.1223	0.0104	0.0053	8.52%	0.0008	5.49%
128.05	Isoleucine, Pre-col AQC Der (%)	1	1	0.1005							
129.00	Leucine, Post-col Ninhydryn Der (%)	7	7	0.2674	0.0704	0.2885	0.0206	0.0097	7.15%	0.0053	4.82%
129.05	Leucine, Pre-col AQC Der (%)	1	1	0.2425							
130.00	L-Lysine, Post-col Ninhydryn Der (%)	7	6	0.1279	0.0128	0.1279	0.0146	0.0074	11.39%	0.0027	5.45%
130.05	L-Lysine, Pre-col AQC Der (%)	1	1	0.0925							
131.00	Methionine, PAO Post-col Ninhydryn Der (%)	7	6	0.0391	0.0084	0.0401	0.0039	0.0020	9.72%	0.0010	6.49%
131.05	Methionine, PAO Pre-col AQC Der (%)	1		0.0000							
132.00	Phenylalanine, Post-col Ninhydryn Der (%)	7	7	0.1484	0.0253	0.1484	0.0287	0.0136	19.32%	0.0035	5.33%
132.05	Phenylalanine, Pre-col AQC Der (%)	1	1	0.0750							
133.00	Proline, Post-col Ninhydryn Der (%)	7	6	0.2874	0.0228	0.2876	0.0254	0.0129	8.82%	0.0037	4.82%
133.05	Proline, Pre-col AQC Der (%)	1	1	0.3175							
134.00	Serine, Post-col Ninhydryn Der (%)	7	7	0.1677	0.0101	0.1666	0.0089	0.0042	5.34%	0.0023	5.24%
134.05	Serine, Pre-col AQC Der (%)	1	1	0.0840							
135.00	Threonine, Post-col Ninhydryn Der (%)	7	7	0.1426	0.0077	0.1426	0.0087	0.0041	6.12%	0.0018	5.36%
135.05	Threonine, Pre-col AQC Der (%)	1	1	0.0540							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	4	3	0.0433	0.0058	0.0433	0.0058			0.0000	6.41%
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	3	3	0.1163	0.1374	0.1163	0.1374	0.0972	118.13%	0.0041	5.53%
136.05	Tryptophan, Pre-col AQC Der (%)	1		0.0000							
137.00	Tyrosine, Post-col Ninhydryn Der (%)	6	6	0.1273	0.0128	0.1273	0.0145	0.0074	11.41%	0.0044	5.45%
137.05	Tyrosine, Pre-col AQC Der (%)	1		0.0255							
138.00	Valine, Post-col Ninhydryn Der (%)	7	7	0.1961	0.0157	0.1961	0.0177	0.0084	9.05%	0.0048	5.11%
138.05	Valine, Pre-col AQC Der (%)	1	1	0.1315							
139.00	Taurine, Post-col Ninhydryn Der (%)	1	1	0.0170							
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.0485							
150.00	Phytase, Colorimetric (Units / kg)	1	1	1,525							
150.99	Phytase, Miscellaneous (Units / kg)	1	1	4,904							
160.99	Fructose, Miscellaneous (%)	1		0.1500							
162.99	Glucose, Miscellaneous (%)	1		0.1500							
163.99	Lactose, Miscellaneous (%)	1		0.1500							
164.99	Maltose, Miscellaneous (%)	1		0.1500							
165.99	Sucrose, Miscellaneous (%)	1	1	0.1850							

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
166.99	Raffinose, Miscellaneous (%)	1		0.0500							
167.99	Stachyose, Miscellaneous (%)	1		0.0500							
400.01	Water Activity, Aqualab chilled mirror (Units)	7	7	0.4220	0.0344	0.4146	0.0195	0.0092	4.70%	0.0049	
400.99	Water Activity, Miscellaneous (Units)	3	3	0.4035	0.0200	0.4035	0.0200	0.0115	4.95%	0.0063	
412.01	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	1.850							
516.00	Arsenic, Total, AA, Hydride (mg / kg (ppm))	1	1	2.887							
516.43	Arsenic, Total, ICP, Microwave (mg / kg (ppm))	3	2	3.345	0.7751	3.345	0.7751			0.1831	13.34%
516.52	Arsenic, Total, ICP-MS, Open vessel (mg / kg (ppm))	3	3	4.250	0.7562	4.250	0.7562	0.4366	17.79%	1.207	12.87%
516.53	Arsenic, Total, ICP-MS, Microwave (mg / kg (ppm))	6	6	4.417	0.6381	4.417	0.7236	0.3692	16.38%	0.2785	12.79%
516.99	Arsenic, Total, Miscellaneous (mg / kg (ppm))	1	1	2.862							
518.31	Cadmium, AAS, Dry ash (mg / kg (ppm))	1		0.9900							
518.32	Cadmium, AAS, Open vessel (mg / kg (ppm))	1	1	0.3150							
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	3	3	1.168	0.3799	1.168	0.3799	0.2193	32.51%	0.0519	15.63%
518.43	Cadmium, ICP, Microwave (mg / kg (ppm))	3	2	1.411	0.0865	1.411	0.0865			0.0094	15.19%
518.52	Cadmium, ICP-MS, Open vessel (mg / kg (ppm))	3	3	1.340	0.0522	1.340	0.0522	0.0301	3.90%	0.0867	15.31%
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	6	6	1.411	0.1586	1.411	0.1799	0.0918	12.75%	0.1144	15.19%
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	2	2	95.08	103.0						
520.42	Chromium, ICP, Open vessel (mg / kg (ppm))	3	3	25.34	2.700	25.34	2.700	1.909	10.66%	0.8613	9.83%
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	4	4	27.30	2.948	27.30	2.948	1.474	10.80%	0.3795	9.73%
520.51	Chromium, ICP-MS, Dry ash (mg / kg (ppm))	1	1	22.97							
520.52	Chromium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	25.05							
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	5	5	29.51	2.940	29.51	2.940	1.315	9.96%	2.753	9.61%
526.31	Lead, AAS, Dry ash (mg / kg (ppm))	1		0.9900							
526.32	Lead, AAS, Open vessel (mg / kg (ppm))	1	1	2.065							
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	2	2	0.4859	0.5967						
526.43	Lead, ICP, Microwave (mg / kg (ppm))	1		5.000							
526.52	Lead, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.9575	0.3147						
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	5	5	1.001	0.1361	1.001	0.1361	0.0608	13.59%	0.0691	15.99%
529.00	Mercury, Cold vapor (µg / kg (ppb))	1		0.0000							
529.99	Mercury, Miscellaneous (µg / kg (ppb))	1	1	6.275							
539.41	Nickel, ICP, Dry ash (mg / kg (ppm))	2	2	7.367	0.1091						
539.42	Nickel, ICP, Open vessel (mg / kg (ppm))	1	1	11.65							
539.43	Nickel, ICP, Microwave (mg / kg (ppm))	2	2	11.02	0.6766						
539.52	Nickel, ICP-MS, Open vessel (mg / kg (ppm))	1	1	9.910							
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	4	4	12.76	1.373	12.76	1.373	0.6866	10.76%	0.7347	10.90%
710.99	Lauric Acid (12:0), Miscellaneous (%) (w/w)	1		0.0200							
714.99	Myristic Acid (14:0), Miscellaneous (%) (w/w)	1		0.0200							
716.99	Palmitic Acid (16:0), Miscellaneous (%) (w/w)	1	1	0.2200							
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (%) (w/w)	1		0.0400							
722.99	Stearic Acid (18:0), Miscellaneous (%) (w/w)	1	1	0.0400							



**Test Material Code # 201995**

**(Precision Report Follows)**

**Issue Date : 06/30/2019**

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	1	1	0.2150							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	1	1	0.3350							
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	1		0.0200							
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	1		0.0200							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	1		0.0200							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	1		0.0200							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	1		0.0500							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	1	1	0.3350							
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.2950							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.2450							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.3650							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	0.9700							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	1	1	0.9250							

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.

Animal Feed Scheme

# Methods Reported: 60

Beef Mineral

Method Precision Report

# Labs Reporting: 173

Test Material Code # 201995

Issue Date : 06/30/2019

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
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	43	39	3.347	0.4328	0.2545	0.0888	0.2695	7.71%	2.69%	8.17%	3.036
001.99	Loss on Drying, Miscellaneous (%)	18	16	3.646	1.150	0.4608	0.1026	0.4721	13.59%	3.03%	13.93%	4.602
002.05	Protein, Crude, Copper, Boric Acid (%)	9	8	4.508	0.4016	0.0979	0.0274	0.1016	2.24%	0.63%	2.32%	3.708
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	51	46	4.357	0.5852	0.2145	0.1004	0.2369	4.84%	2.27%	5.35%	2.359
003.10	Fat, Crude, Randall, Pet Ether (%)	10	9	1.497	0.3014	0.2947	0.0718	0.3033	20.15%	4.90%	20.73%	4.227
003.14	Fat, Crude, Ankom (%)	19	17	1.203	0.2255	0.2256	0.0763	0.2382	18.71%	6.33%	19.75%	3.121
004.07	Fiber, Crude, ANKOM (%)	16	14	2.788	0.9302	0.9594	0.1237	0.9673	34.60%	4.46%	34.89%	7.818
005.00	Ash, 2h @ 600°C (%)	85	79	65.37	1.352	1.236	0.3091	1.274	1.89%	0.47%	1.95%	4.121
005.05	Ash, 3h @ 550°C (%)	30	27	66.90	1.646	1.046	0.2366	1.072	1.57%	0.36%	1.61%	4.533
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	12	11	3.000	0.6081	0.4640	0.1304	0.4820	16.10%	4.52%	16.72%	3.696
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	14	11	7.797	1.656	0.8590	0.1001	0.8648	11.58%	1.35%	11.66%	8.636
011.01	Loss on Drying, 135°C 2hr (%)	57	53	5.107	0.7314	0.5013	0.1301	0.5179	9.58%	2.49%	9.90%	3.980
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	11	11	2.550	0.6477	0.6429	0.1114	0.6524	25.21%	4.37%	25.58%	5.858
019.00	Calcium, Ox-Mn04 Vol. (%)	11	9	14.35	1.553	0.4482	0.0778	0.4549	3.23%	0.56%	3.28%	5.846
019.08	Calcium, EDTA (%)	10	9	15.32	2.602	2.693	0.0850	2.694	17.37%	0.55%	17.38%	31.70
019.31	Calcium, AAS, Dry ash (%)	18	17	14.03	1.176	0.9523	0.1507	0.9641	6.71%	1.06%	6.79%	6.399
019.41	Calcium, ICP, Dry ash (%)	25	24	13.56	1.074	1.056	0.2803	1.092	7.79%	2.07%	8.06%	3.896
019.42	Calcium, ICP, Open vessel (%)	22	22	13.71	1.126	1.113	0.2429	1.139	8.12%	1.77%	8.31%	4.690
019.43	Calcium, ICP, Microwave (%)	27	25	13.11	2.673	1.230	0.1884	1.245	9.06%	1.39%	9.17%	6.607
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	9	9	33.55	4.093	4.017	1.104	4.166	11.98%	3.29%	12.42%	3.774
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	15	15	1,430	44.88	42.17	21.70	47.43	2.95%	1.52%	3.32%	2.186
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	24	21	1,399	118.8	96.20	28.29	100.3	6.90%	2.03%	7.19%	3.545
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	23	21	1,437	86.60	73.87	43.34	85.64	5.17%	3.03%	5.99%	1.976
022.43	Copper, ICP, Microwave (mg / kg (ppm))	26	25	1,440	105.7	101.2	43.01	110.0	7.03%	2.99%	7.64%	2.557
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	15	14	4,240	855.0	853.9	60.91	856.1	20.14%	1.44%	20.19%	14.06
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	24	23	4,328	595.8	596.7	111.7	607.0	13.85%	2.59%	14.09%	5.436
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	17	16	4,698	372.7	346.6	113.6	364.7	7.32%	2.40%	7.71%	3.210
025.43	Iron, ICP, Microwave (mg / kg (ppm))	21	19	4,530	289.3	230.1	84.03	245.0	5.10%	1.86%	5.43%	2.915
027.31	Magnesium, AAS, Dry ash (%)	16	15	1.792	0.2885	0.0981	0.0557	0.1128	5.28%	3.00%	6.07%	2.025
027.41	Magnesium, ICP, Dry ash (%)	23	22	1.833	0.1468	0.1123	0.0655	0.1300	6.19%	3.61%	7.16%	1.986
027.42	Magnesium, ICP, Open vessel (%)	23	23	1.804	0.1420	0.1346	0.0642	0.1491	7.46%	3.56%	8.27%	2.323
027.43	Magnesium, ICP, Microwave (%)	25	23	1.770	0.3884	0.1445	0.0488	0.1526	8.00%	2.70%	8.45%	3.125
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	13	12	3,024	203.1	148.3	53.94	157.8	4.97%	1.81%	5.29%	2.925

**Test Material Code # 201995**

**Issue Date : 06/30/2019**

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
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	18	2,828	282.5	236.0	68.61	245.7	8.23%	2.39%	8.57%	3.582
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	22	21	2,883	718.3	322.5	69.70	329.9	10.68%	2.31%	10.92%	4.734
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	23	21	2,948	286.7	209.9	71.17	221.6	7.19%	2.44%	7.59%	3.114
031.01	Phosphorus, Photometric (%)	38	34	4.907	0.2383	0.2385	0.0560	0.2450	4.86%	1.14%	4.99%	4.371
031.41	Phosphorus, ICP, Dry ash (%)	25	23	4.858	0.9201	0.4151	0.1372	0.4372	8.33%	2.75%	8.78%	3.187
031.42	Phosphorus, ICP, Open vessel (%)	21	20	5.121	0.4620	0.3454	0.1075	0.3617	6.83%	2.13%	7.16%	3.365
031.43	Phosphorus, ICP, Microwave (%)	24	22	5.039	0.3216	0.2323	0.0797	0.2456	4.56%	1.56%	4.82%	3.081
032.31	Potassium, AAS, Dry ash (%)	13	11	1.891	0.0995	0.0615	0.0299	0.0683	3.20%	1.56%	3.56%	2.287
032.41	Potassium, ICP, Dry ash (%)	24	21	1.947	0.2983	0.1835	0.0572	0.1922	9.42%	2.93%	9.86%	3.361
032.42	Potassium, ICP, Open vessel (%)	20	16	2.049	0.2952	0.1550	0.0390	0.1599	7.92%	1.99%	8.17%	4.102
032.43	Potassium, ICP, Microwave (%)	26	24	1.986	0.1643	0.1654	0.0359	0.1693	8.34%	1.81%	8.53%	4.715
033.00	Salt as chloride, Sol Cl (%)	18	16	19.79	4.386	2.764	0.1663	2.769	13.33%	0.80%	13.36%	16.65
033.01	Salt as chloride, Poten Cl (%)	30	27	21.96	0.6558	0.3971	0.3235	0.5122	1.82%	1.48%	2.35%	1.583
033.99	Salt, Miscellaneous (%)	10	10	16.29	7.731	7.729	0.2515	7.733	47.46%	1.54%	47.49%	30.75
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	13	13	23.67	2.423	2.260	1.235	2.575	9.55%	5.22%	10.88%	2.086
035.31	Sodium, AAS, Dry ash (%)	15	13	7.672	0.6043	0.6270	0.0703	0.6310	8.17%	0.92%	8.22%	8.972
035.41	Sodium, ICP, Dry ash (%)	22	20	7.786	0.7000	0.4342	0.2067	0.4809	5.67%	2.70%	6.28%	2.326
035.42	Sodium, ICP, Open vessel (%)	19	16	7.631	0.5420	0.4063	0.1408	0.4300	5.28%	1.83%	5.58%	3.054
035.43	Sodium, ICP, Microwave (%)	21	20	7.604	0.6210	0.4361	0.1359	0.4568	5.81%	1.81%	6.09%	3.360
036.42	Sulfur, ICP, Open vessel (%)	22	19	0.9179	0.1139	0.0860	0.0167	0.0876	9.54%	1.85%	9.71%	5.238
036.43	Sulfur, ICP, Microwave (%)	16	13	0.8964	0.0967	0.0754	0.0320	0.0819	8.58%	3.64%	9.32%	2.561
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	15	13	3,553	186.9	190.5	55.35	198.4	5.36%	1.56%	5.58%	3.584
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	23	21	3,424	386.6	307.9	100.4	323.8	8.86%	2.89%	9.32%	3.226
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	22	21	3,675	377.9	379.7	81.10	388.3	10.36%	2.21%	10.59%	4.787
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	26	24	3,567	269.2	217.3	48.74	222.7	6.16%	1.38%	6.31%	4.569
106.02	Vitamin A, LC (KU / kg)	17	15	421.7	104.1	85.74	21.90	88.49	19.54%	4.99%	20.17%	4.040
109.02	Vitamin E, LC (IU / kg)	14	14	355.3	114.3	113.5	19.22	115.1	31.95%	5.41%	32.41%	5.990

Notes: Precision Calculations provided for methods with 8 or more labs used in calculations.