



AAFCO
Proficiency Testing Program



Pet Food Ingredient Scheme

Field Peas

Test Material Code # 201942

Method Summary Report

(Precision Report Follows)

Labs Reporting: 58

Methods Reported: 266

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
001.00	Loss on Drying, Vac 95°C 5 hr (%)	3	3	9.336	0.1723	9.336	0.1723	0.0995	1.85%	0.0629	2.86%
001.03	Loss on Drying, Low temp. methods (%)	2	2	9.740	0.0566						
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	14	14	9.616	0.4312	9.676	0.2932	0.0979	3.03%	0.0677	2.84%
001.99	Loss on Drying, Miscellaneous (%)	9	9	9.262	0.4221	9.262	0.4787	0.1995	5.17%	0.0906	2.86%
002.01	Protein, Crude, Auto Kjel-Foss (%)	6	6	21.44	0.3643	21.44	0.4131	0.2108	1.93%	0.1578	2.16%
002.04	Protein, Crude, Copper Catalyst (%)	2	2	21.72	0.0460						
002.05	Protein, Crude, Copper, Boric Acid (%)	1	1	21.23							
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	45	44	21.52	0.3578	21.56	0.2075	0.0391	0.96%	0.1560	2.15%
002.08	Protein, Crude, Cu/Ti (%)	1	1	21.56							
002.10	Protein, Crude, Block dig/distillation (%)	1	1	21.47							
002.11	Protein, Crude, NIR (%)	1	1	19.63							
002.99	Protein, Crude, Miscellaneous (%)	1	1	21.29							
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	2	2	1.434	0.0862						
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	1	1	1.085							
003.06	Fat, Crude, Pet Ether (%)	4	4	1.626	0.4660	1.626	0.4660	0.2330	28.65%	0.1275	3.72%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	3	3	1.610	0.0957	1.610	0.0957	0.0553	5.94%	0.0511	3.72%
003.10	Fat, Crude, Randall, Pet Ether (%)	11	10	1.318	0.1562	1.328	0.1543	0.0610	11.62%	0.0270	3.83%
003.11	Fat, Crude, NIR (%)	1	1	2.025							
003.12	Fat, Crude, Hexane Ext (%)	1	1	1.415							
003.13	Fat, Crude, Randall, Hexane Ext. (%)	3	3	1.613	0.0334	1.613	0.0334	0.0193	2.07%	0.1240	3.72%
003.14	Fat, Crude, Ankom (%)	9	9	1.475	0.2750	1.475	0.3118	0.1299	21.15%	0.1346	3.77%
003.99	Fat, Crude, Miscellaneous (%)	2	2	1.823	0.0318						
004.00	Fiber, Crude, Asbestos Free (%)	6	6	5.409	0.2107	5.409	0.2389	0.1219	4.42%	0.1244	3.10%
004.03	Fiber, Crude, Fritted Glass (%)	1	1	4.570							
004.06	Fiber, Crude, Fibertec (%)	3	3	5.666	0.2638	5.666	0.2638	0.1523	4.66%	0.2253	3.08%
004.07	Fiber, Crude, ANKOM (%)	18	18	5.289	0.6361	5.330	0.6187	0.1823	11.61%	0.2869	3.11%
004.11	Fiber, Crude, NIR (%)	1	1	2.350							
004.99	Fiber, Crude, Miscellaneous (%)	1	1	5.100							
005.00	Ash, 2h @ 600°C (%)	42	41	2.505	0.1541	2.499	0.1233	0.0241	4.93%	0.1187	3.48%
005.03	Ash, Microwave furnace (%)	1	1	2.575							

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005.05	Ash, 3h @ 550°C (%)	3	3	6.920	7.348	6.920	7.348	5.196	106.19%	0.0533	2.99%
005.99	Ash, Miscellaneous (%)	3	3	2.514	0.1771	2.514	0.1771	0.1022	7.04%	0.0420	3.48%
006.00	Total Sugars, As sucrose (%)	1	1	7.042							
006.99	Total Sugars, Miscellaneous (%)	1	1	3.155							
008.02	Fiber, Acid Detergent, Crucible (%)	4	4	6.727	0.8470	6.727	0.8470	0.4235	12.59%	0.2199	3.00%
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	8	7	7.004	0.5502	7.004	0.6239	0.2948	8.91%	0.2653	2.98%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	1	1	7.200							
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	1	1	9.565							
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	3	3	11.61	0.7182	11.61	0.7182	0.5079	6.19%	0.2157	2.77%
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	8	8	13.28	4.809	12.89	4.520	1.998	35.06%	0.3468	2.72%
010.03	Moisture, Karl-Fischer (%)	1	1	10.34							
010.99	Moisture, Miscellaneous (%)	3	3	9.763	0.5090	9.763	0.5090	0.2939	5.21%	0.0483	2.84%
011.01	Loss on Drying, 135°C 2hr (%)	23	22	10.01	0.4194	10.09	0.2398	0.0639	2.38%	0.1119	2.82%
011.02	Loss on Drying, 130°C for 2 hours (%)	2	2	9.150	0.6859						
012.00	Starch, Polarimetric (Ewers) (%)	2	2	45.60	1.980						
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	4	4	37.63	5.471	37.63	5.471	2.735	14.54%	0.9313	1.63%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	3	3	24.45	19.74	24.45	19.74	11.40	80.72%	0.0686	2.02%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	1	1	44.60							
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	9	9	2.377	0.2274	2.377	0.2579	0.1075	10.85%	0.2230	3.51%
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	12	12	2.436	0.3605	2.419	0.3680	0.1328	15.21%	0.1606	3.50%
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	3	3	1.737	0.3876	1.737	0.3876	0.2238	22.32%	0.0867	3.68%
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	2	2	3.154	0.5808						
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	3	3	20.73	6.298	20.73	6.298	3.636	30.38%	0.7119	10.14%
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	2	2	16.67	1.886						
015.53	Aluminum, ICP-MS, Microwave (mg / kg (ppm))	2	2	24.12	0.0955						
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	1	1	7.874							
017.43	Boron, ICP, Microwave (mg / kg (ppm))	2	2	7.830	0.2404						
017.53	Boron, ICP-MS, Microwave (mg / kg (ppm))	1	1	11.25							
019.00	Calcium, Ox-Mn04 Vol. (%)	1	1	0.0985							
019.31	Calcium, AAS, Dry ash (%)	3	3	0.0637	0.0393	0.0637	0.0393	0.0227	61.68%	0.0041	6.05%
019.32	Calcium, AAS, Open vessel (%)	1	1	0.0995							
019.33	Calcium, AAS, Microwave (%)	1	1	0.0724							
019.41	Calcium, ICP, Dry ash (%)	9	9	0.0914	0.0049	0.0922	0.0035	0.0015	3.85%	0.0026	5.73%
019.42	Calcium, ICP, Open vessel (%)	4	4	0.0860	0.0054	0.0860	0.0054	0.0027	6.22%	0.0043	5.79%
019.43	Calcium, ICP, Microwave (%)	9	9	0.0907	0.0170	0.0937	0.0104	0.0043	11.07%	0.0066	5.71%
019.44	Calcium, ICP, Dry ash (%)	4	3	0.0900	0.0000	0.0900	0.0000			0.0020	5.75%
019.52	Calcium, ICP-MS, Open vessel (%)	1	1	0.1050							
019.53	Calcium, ICP-MS, Microwave (%)	3	3	0.0889	0.0043	0.0889	0.0043	0.0025	4.79%	0.0006	5.76%
019.99	Calcium, Miscellaneous (%)	3	3	0.0802	0.0266	0.0802	0.0266	0.0188	33.12%	0.0010	5.85%
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	1	1	0.8500							

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021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	2	2	0.8998	0.0796						
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	2	1	0.8755							
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	1	1	0.8100							
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.3475	0.1450						
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	2	2	0.4578	0.3468						
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	3	3	12.45	6.790	12.45	6.790	4.801	54.54%	0.1500	10.94%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	1	1	5.814							
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	9	9	6.552	0.5318	6.585	0.5253	0.2189	7.98%	0.3559	12.05%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	4	4	6.491	0.4119	6.491	0.4119	0.2059	6.35%	0.2558	12.07%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	9	9	7.429	2.023	6.973	0.9675	0.4031	13.88%	0.3900	11.94%
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	1	1	9.190							
022.53	Copper, ICP-MS, Microwave (mg / kg (ppm))	4	4	6.866	1.631	6.866	1.631	0.8155	23.76%	0.5368	11.97%
022.99	Copper, Miscellaneous (mg / kg (ppm))	2	2	6.888	0.8662						
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	4	4	73.58	14.04	73.58	14.04	7.021	19.08%	4.485	8.38%
025.32	Iron, AAS, Open vessel (mg / kg (ppm))	1	1	56.14							
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	9	9	69.44	5.773	68.86	5.119	2.133	7.43%	2.335	8.46%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	4	4	65.99	4.057	65.99	4.057	2.029	6.15%	2.728	8.52%
025.43	Iron, ICP, Microwave (mg / kg (ppm))	6	6	74.46	10.37	74.46	11.76	6.001	15.79%	5.634	8.36%
025.52	Iron, ICP-MS, Open vessel (mg / kg (ppm))	1	1	69.09							
025.53	Iron, ICP-MS, Microwave (mg / kg (ppm))	3	3	67.00	3.122	67.00	3.122	1.802	4.66%	2.083	8.50%
025.99	Iron, Miscellaneous (mg / kg (ppm))	2	2	70.65	6.152						
027.31	Magnesium, AAS, Dry ash (%)	4	4	0.1152	0.0041	0.1152	0.0041	0.0020	3.55%	0.0029	5.54%
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.1123							
027.33	Magnesium, AAS, Microwave (%)	1	1	0.0744							
027.41	Magnesium, ICP, Dry ash (%)	9	8	0.1112	0.0030	0.1115	0.0026	0.0011	2.30%	0.0011	5.56%
027.42	Magnesium, ICP, Open vessel (%)	4	4	0.1093	0.0033	0.1093	0.0033	0.0017	3.03%	0.0018	5.58%
027.43	Magnesium, ICP, Microwave (%)	11	10	0.1145	0.0070	0.1138	0.0061	0.0024	5.40%	0.0030	5.55%
027.44	Magnesium, ICP, Dry ash (%)	4	4	0.1081	0.0008	0.1081	0.0008	0.0004	0.69%	0.0028	5.59%
027.52	Magnesium, ICP-MS, Open vessel (%)	1	1	0.1200							
027.53	Magnesium, ICP-MS, Microwave (%)	3	3	0.1094	0.0075	0.1094	0.0075	0.0043	6.84%	0.0053	5.58%
027.99	Magnesium, Miscellaneous (%)	2	2	0.1185	0.0021						
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	3	3	12.33	0.5916	12.33	0.5916	0.4183	4.80%	0.4500	10.96%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	1	1	10.01							
028.33	Manganese, AAS, Microwave (mg / kg (ppm))	1	1	5.563							
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	9	9	12.03	1.019	12.09	0.9592	0.3997	7.93%	0.3166	10.99%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	4	4	11.75	0.1896	11.75	0.1896	0.0948	1.61%	0.1400	11.04%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	9	9	13.67	2.261	13.58	2.357	0.9823	17.36%	0.9057	10.80%
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm))	1	1	19.40							
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	3	3	12.32	0.9553	12.32	0.9553	0.5516	7.76%	1.077	10.96%
028.99	Manganese, Miscellaneous (mg / kg (ppm))	3	3	12.12	0.7920	12.12	0.7920	0.4572	6.53%	0.1533	10.99%

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031.01	Phosphorus, Photometric (%)	9	9	0.2669	0.0176	0.2634	0.0101	0.0042	3.85%	0.0047	4.89%
031.03	Phosphorus, Autoanalyzer (%)	1	1	0.2625							
031.41	Phosphorus, ICP, Dry ash (%)	8	8	0.2677	0.0136	0.2691	0.0120	0.0053	4.46%	0.0086	4.87%
031.42	Phosphorus, ICP, Open vessel (%)	4	4	0.2587	0.0066	0.2587	0.0066	0.0033	2.54%	0.0073	4.90%
031.43	Phosphorus, ICP, Microwave (%)	10	10	0.2836	0.0246	0.2828	0.0260	0.0103	9.20%	0.0063	4.84%
031.53	Phosphorus, ICP-MS, Microwave (%)	3	3	0.2644	0.0259	0.2644	0.0259	0.0150	9.80%	0.0114	4.89%
031.99	Phosphorus, Miscellaneous (%)	3	3	0.2763	0.0164	0.2763	0.0164	0.0095	5.95%	0.0040	4.85%
032.31	Potassium, AAS, Dry ash (%)	2	2	0.9125	0.0530						
032.41	Potassium, ICP, Dry ash (%)	9	9	0.8941	0.0807	0.8838	0.0192	0.0080	2.17%	0.0287	4.07%
032.42	Potassium, ICP, Open vessel (%)	4	4	0.8606	0.0323	0.8606	0.0323	0.0161	3.75%	0.0305	4.09%
032.43	Potassium, ICP, Microwave (%)	10	10	0.8830	0.0436	0.8825	0.0483	0.0191	5.47%	0.0288	4.08%
032.44	Potassium, ICP, Dry ash (%)	4	4	0.8531	0.0094	0.8531	0.0094	0.0047	1.10%	0.0098	4.10%
032.53	Potassium, ICP-MS, Microwave (%)	3	3	0.9021	0.0608	0.9021	0.0608	0.0351	6.74%	0.0154	4.06%
032.99	Potassium, Miscellaneous (%)	2	2	0.8370	0.1032						
033.00	Salt as chloride, Sol Cl (%)	2	2	0.0856	0.0432						
033.01	Salt as chloride, Poten Cl (%)	6	6	0.1430	0.0223	0.1472	0.0148	0.0075		0.0000	5.34%
033.05	Salt as chloride, Ion Sel Electrode (%)	2	2	0.5250	0.5586						
034.04	Selenium, AA, Hydride (mg / kg (ppm))	1	1	0.3300							
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	1	1	0.6650							
034.42	Selenium, ICP, Open vessel (mg / kg (ppm))	1	1	0.9100							
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	2	1	0.1502							
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.4000	0.0707						
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	5	4	0.4384	0.0492	0.4384	0.0492	0.0246	11.23%	0.0114	18.11%
035.31	Sodium, AAS, Dry ash (%)	2	1	0.0100							
035.41	Sodium, ICP, Dry ash (%)	10	10	0.0145	0.0074	0.0139	0.0067	0.0027	48.58%	0.0026	7.61%
035.42	Sodium, ICP, Open vessel (%)	4	2	0.0058	0.0033	0.0058	0.0033			0.0007	8.68%
035.43	Sodium, ICP, Microwave (%)	7	7	0.0096	0.0099	0.0080	0.0072	0.0034	90.12%	0.0009	8.27%
035.53	Sodium, ICP-MS, Microwave (%)	2	2	0.0038	0.0003						
035.99	Sodium, Miscellaneous (%)	1		0.0100							
036.04	Sulfur, LECO (%)	1	1	0.2150							
036.42	Sulfur, ICP, Open vessel (%)	5	4	0.1729	0.0133	0.1729	0.0133	0.0077	7.68%	0.0003	5.21%
036.43	Sulfur, ICP, Microwave (%)	7	7	0.1796	0.0120	0.1795	0.0135	0.0064	7.51%	0.0029	5.18%
036.53	Sulfur, ICP-MS, Microwave (%)	2	2	0.1797	0.0146						
036.99	Sulfur, Miscellaneous (%)	1	1	0.1800							
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	4	4	36.11	4.907	36.11	4.907	2.453	13.59%	1.040	9.32%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	1	1	38.50							
037.33	Zinc, AAS, Microwave (mg / kg (ppm))	1	1	31.13							
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	9	9	40.94	3.123	40.75	2.871	1.196	7.05%	1.255	9.16%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	4	4	38.35	1.095	38.35	1.095	0.5477	2.86%	0.9875	9.24%
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	9	9	40.77	3.697	40.93	3.823	1.593	9.34%	1.939	9.15%

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037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	1	1	42.75							
037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	3	3	35.60	10.02	35.60	10.02	5.786	28.15%	15.36	9.34%
037.99	Zinc, Miscellaneous (mg / kg (ppm))	2	2	41.33	0.4596						
038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	2	2	4.107	0.1462						
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	2	2	4.730	0.3253						
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	1	1	4.950							
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	6.340							
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	4	4	4.574	0.4566	4.574	0.4566	0.2283	9.98%	0.1283	12.72%
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	1	1	3.418							
041.53	Vanadium, ICP-MS, Microwave (mg / kg (ppm))	1	1	0.0555							
042.00	Chloride, Titrimetric (%)	1	1	0.0940							
101.01	Choline Chloride, Chem (mg / kg (ppm))	1	1	1,123							
101.02	Choline Chloride, LC (mg / kg (ppm))	2	2	1,455	247.8						
101.99	Choline Chloride, Miscellaneous (mg / kg (ppm))	1	1	1,015							
102.02	Niacin, LC (mg / kg (ppm))	1	1	1.980							
103.02	Pantothenic Acid, LC (mg / kg (ppm))	1	1	0.8205							
104.03	Riboflavin, LC (mg / kg (ppm))	1	1	2.165							
105.00	Thiamine, LC (mg / kg (ppm))	3	3	9.507	1.879	9.507	1.879	1.085	19.77%	0.3000	11.40%
109.02	Vitamin E, LC (IU / kg)	1	1	3.900							
112.01	Pyridoxine, LC (µg / g)	2	2	0.9225	0.8804						
120.00	Alanine, Post-col Ninhydrin Der (%)	6	6	0.9274	0.0683	0.9274	0.0775	0.0395	8.35%	0.0165	4.05%
120.05	Alanine, Pre-col AQC Der (%)	3	3	0.9085	0.0156	0.9085	0.0156	0.0090	1.71%	0.0290	4.06%
120.99	Alanine, Miscellaneous (%)	1	1	0.9285							
121.00	Arginine, Post-col Ninhydrin Der (%)	6	6	1.853	0.1041	1.845	0.0979	0.0500	5.31%	0.0379	3.65%
121.05	Arginine, Pre-col AQC Der (%)	3	3	1.751	0.1729	1.751	0.1729	0.0998	9.88%	0.0723	3.68%
121.99	Arginine, Miscellaneous (%)	1	1	1.880							
122.00	Aspartic, Post-col Ninhydrin Der (%)	6	6	2.539	0.1369	2.539	0.1553	0.0792	6.12%	0.0568	3.48%
122.05	Aspartic, Pre-col AQC Der (%)	3	3	2.434	0.0704	2.434	0.0704	0.0406	2.89%	0.1000	3.50%
122.99	Aspartic, Miscellaneous (%)	1	1	2.219							
124.00	Cysteine/Cystine, PAO Post-col Ninhytri (%)	6	6	0.2937	0.0345	0.2937	0.0391	0.0200	13.32%	0.0184	4.81%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	3	3	0.2360	0.0598	0.2360	0.0598	0.0345	25.33%	0.0193	4.97%
124.99	Cysteine/Cystine, Miscellaneous (%)	1	1	0.3105							
125.00	Glutamic, Post-col Ninhydrin Der (%)	6	6	3.710	0.2052	3.708	0.2282	0.1165	6.16%	0.0781	3.28%
125.05	Glutamic, Pre-col AQC Der (%)	3	3	3.617	0.1464	3.617	0.1464	0.0845	4.05%	0.1513	3.30%
126.00	Glycine, Post-col Ninhydrin Der (%)	6	6	0.9383	0.0385	0.9306	0.0240	0.0123	2.58%	0.0192	4.04%
126.05	Glycine, Pre-col AQC Der (%)	3	3	0.9383	0.0236	0.9383	0.0236	0.0136	2.52%	0.0273	4.04%
127.00	Histidine, Post-col Ninhydrin Der (%)	6	6	0.5403	0.0483	0.5403	0.0548	0.0280	10.14%	0.0081	4.39%
127.05	Histidine, Pre-col AQC Der (%)	3	3	0.4970	0.0255	0.4970	0.0255	0.0147	5.14%	0.0173	4.44%
127.99	Histidine, Miscellaneous (%)	1	1	0.5330							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	6	6	0.8949	0.0516	0.8949	0.0585	0.0298	6.54%	0.0257	4.07%

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
128.05	Isoleucine, Pre-col AQC Der (%)	3	3	0.8535	0.0103	0.8535	0.0103	0.0060	1.21%	0.0303	4.10%
128.99	Isoleucine, Miscellaneous (%)	1	1	0.9420							
129.00	Leucine, Post-col Ninhydrin Der (%)	6	6	1.563	0.0482	1.553	0.0277	0.0141	1.78%	0.0235	3.74%
129.05	Leucine, Pre-col AQC Der (%)	3	3	1.527	0.0231	1.527	0.0231	0.0163	1.51%	0.0507	3.75%
129.99	Leucine, Miscellaneous (%)	1	1	1.512							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	6	6	1.596	0.0762	1.571	0.0202	0.0103	1.29%	0.0219	3.74%
130.05	L-Lysine, Pre-col AQC Der (%)	3	3	1.597	0.0534	1.597	0.0534	0.0308	3.34%	0.0673	3.73%
130.99	L-Lysine, Miscellaneous (%)	2	2	1.494	0.1117						
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	5	5	0.2063	0.0176	0.2063	0.0176	0.0079	8.55%	0.0123	5.07%
131.05	Methionine, PAO Pre-col AQC Der (%)	3	3	0.1705	0.1089	0.1705	0.1089	0.0629	63.86%	0.0109	5.22%
131.99	Methionine, Miscellaneous (%)	1	1	0.1805							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	6	6	1.047	0.0483	1.044	0.0484	0.0247	4.64%	0.0106	3.97%
132.05	Phenylalanine, Pre-col AQC Der (%)	3	3	0.9993	0.0266	0.9993	0.0266	0.0153	2.66%	0.0260	4.00%
132.99	Phenylalanine, Miscellaneous (%)	1	1	1.069							
133.00	Proline, Post-col Ninhydrin Der (%)	6	6	0.8884	0.0638	0.8772	0.0444	0.0227	5.06%	0.0316	4.08%
133.05	Proline, Pre-col AQC Der (%)	3	3	0.8807	0.0183	0.8807	0.0183	0.0106	2.08%	0.0260	4.08%
133.99	Proline, Miscellaneous (%)	1	1	0.9575							
134.00	Serine, Post-col Ninhydrin Der (%)	6	6	1.045	0.1117	1.045	0.1267	0.0646	12.12%	0.0373	3.97%
134.05	Serine, Pre-col AQC Der (%)	3	3	1.023	0.0198	1.023	0.0198	0.0114	1.93%	0.0403	3.99%
134.99	Serine, Miscellaneous (%)	1	1	0.9965							
135.00	Threonine, Post-col Ninhydrin Der (%)	7	7	0.8256	0.0486	0.8256	0.0551	0.0260	6.67%	0.0219	4.12%
135.05	Threonine, Pre-col AQC Der (%)	3	3	0.7682	0.0523	0.7682	0.0523	0.0302	6.81%	0.0390	4.16%
135.99	Threonine, Miscellaneous (%)	1	1	0.8095							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	4	4	0.1760	0.0286	0.1760	0.0286	0.0143	16.22%	0.0095	5.19%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	1	1	0.2365							
136.05	Tryptophan, Pre-col AQC Der (%)	2	2	0.1643	0.0364						
136.99	Tryptophan, Miscellaneous (%)	1	1	0.1700							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	5	4	0.6268	0.0413	0.6268	0.0413	0.0206	6.59%	0.0088	4.29%
137.05	Tyrosine, Pre-col AQC Der (%)	3	3	0.6472	0.0713	0.6472	0.0713	0.0412	11.02%	0.0397	4.27%
138.00	Valine, Post-col Ninhydrin Der (%)	6	6	1.011	0.0239	1.011	0.0271	0.0138	2.68%	0.0242	3.99%
138.05	Valine, Pre-col AQC Der (%)	3	3	0.9933	0.0419	0.9933	0.0419	0.0242	4.22%	0.0467	4.00%
138.99	Valine, Miscellaneous (%)	1	1	1.101							
139.00	Taurine, Post-col Ninhydrin Der (%)	1	1	0.1450							
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.0565							
139.99	Taurine, Miscellaneous (%)	1	1	0.1665							
160.99	Fructose, Miscellaneous (%)	2	1	0.0150							
162.99	Glucose, Miscellaneous (%)	2	1	0.0945							
163.99	Lactose, Miscellaneous (%)	2		0.0000							
164.99	Maltose, Miscellaneous (%)	1		0.1500							
165.99	Sucrose, Miscellaneous (%)	2	2	2.698	0.2086						

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	1	0.7180							
167.99	Stachyose, Miscellaneous (%)	1	1	2.275							
365.00	Monensin, Plate (mg/kg (ppm))	1	1	25.05							
400.01	Water Activity, Aqualab chilled mirror (Units)	1	1	0.4104							
400.99	Water Activity, Miscellaneous (Units)	1	1	0.4310							
516.00	Arsenic, Total, AA, Hydride (mg / kg (ppm))	1	1	0.0149							
516.43	Arsenic, Total, ICP, Microwave (mg / kg (ppm))	2	1	1.017							
516.53	Arsenic, Total, ICP-MS, Microwave (mg / kg (ppm))	2	2	0.0347	0.0350						
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	2	2	0.0136	0.0016						
518.43	Cadmium, ICP, Microwave (mg / kg (ppm))	1	1	0.1600							
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	3	3	0.0176	0.0049	0.0176	0.0049	0.0029	28.07%	0.0044	22.00%
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	2	1	1.058							
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	1	1	1.680							
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	4	4	1.390	0.5636	1.390	0.5636	0.2818	40.56%	0.0778	15.22%
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	2	2	0.0047							
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	2	2	0.0110	0.0004						
539.41	Nickel, ICP, Dry ash (mg / kg (ppm))	2	2	1.958	0.0070						
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	2	2	1.806	0.3241						
710.99	Lauric Acid (12:0), Miscellaneous (%) (w/w)	2	2	0.0100							
714.99	Myristic Acid (14:0), Miscellaneous (%) (w/w)	2	2	0.0100							
716.99	Palmitic Acid (16:0), Miscellaneous (%) (w/w)	2	2	0.2800	0.0495						
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (%) (w/w)	2	2	0.0100							
722.99	Stearic Acid (18:0), Miscellaneous (%) (w/w)	1	1	0.0800							
724.99	Oleic Acid (9c-18:1), Miscellaneous (%) (w/w)	2	2	0.5400	0.0000						
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (%) (w/w)	2	2	0.9475	0.0601						
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (%) (w/w)	2	2	0.1825	0.0177						
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (%) (w/w)	1	1	0.0100							
742.99	Behenic Acid (22:0), Miscellaneous (%) (w/w)	1	1	0.0200							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (%) (w/w)	1	1	0.0100							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (%) (w/w)	2	2	0.1900	0.0212						
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (%) (w/w)	2	2	0.9575	0.0743						
758.99	Total Saturated Fatty Acids, Miscellaneous (%) (w/w)	1	1	0.4500							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (%) (w/w)	1	1	0.5800							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (%) (w/w)	1	1	1.090							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (%) (w/w)	1	1	2.225							
772.99	Total Fatty Acids, Miscellaneous (%) (w/w)	2	2	2.115	0.0212						

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.

Test Material Code # 201942

(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
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Pet Food Ingredient Scheme

Methods Reported: 27

Field Peas

Method Precision Report

Labs Reporting: 58

Test Material Code # 201942

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 (%)	14	13	9.616	0.4312	0.2738	0.0675	0.2820	2.82%	0.70%	2.91%	4.180
001.99	Loss on Drying, Miscellaneous (%)	9	9	9.262	0.4221	0.4180	0.0833	0.4262	4.51%	0.90%	4.60%	5.116
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	45	43	21.52	0.3578	0.2460	0.1312	0.2788	1.14%	0.61%	1.29%	2.126
003.10	Fat, Crude, Randall, Pet Ether (%)	11	9	1.318	0.1562	0.1488	0.0190	0.1500	11.47%	1.47%	11.57%	7.889
003.14	Fat, Crude, Ankom (%)	9	9	1.475	0.2750	0.2585	0.1327	0.2905	17.53%	9.00%	19.70%	2.190
004.07	Fiber, Crude, ANKOM (%)	18	17	5.289	0.6361	0.5894	0.2327	0.6337	11.26%	4.45%	12.10%	2.723
005.00	Ash, 2h @ 600°C (%)	42	38	2.505	0.1541	0.0857	0.1067	0.1368	3.43%	4.28%	5.48%	1.282
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	8	8	13.28	4.809	4.805	0.3001	4.814	36.17%	2.26%	36.24%	16.04
011.01	Loss on Drying, 135°C 2hr (%)	23	20	10.01	0.4194	0.3158	0.0914	0.3288	3.14%	0.91%	3.27%	3.598
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	9	9	2.377	0.2274	0.1684	0.2162	0.2740	7.08%	9.10%	11.53%	1.267
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	12	12	2.436	0.3605	0.3496	0.1241	0.3710	14.35%	5.10%	15.23%	2.989
019.43	Calcium, ICP, Microwave (%)	9	8	0.0907	0.0170	0.0074	0.0041	0.0085	7.73%	4.33%	8.86%	2.046
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	9	9	6.552	0.5318	0.4659	0.3628	0.5905	7.11%	5.54%	9.01%	1.627
022.43	Copper, ICP, Microwave (mg / kg (ppm))	9	8	7.429	2.023	0.6694	0.3013	0.7340	9.86%	4.44%	10.81%	2.436
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	9	8	69.44	5.773	3.371	2.212	4.032	4.96%	3.26%	5.94%	1.823
027.41	Magnesium, ICP, Dry ash (%)	9	8	0.1112	0.0030	0.0029	0.0010	0.0030	2.58%	0.92%	2.74%	2.992
027.43	Magnesium, ICP, Microwave (%)	11	8	0.1145	0.0070	0.0048	0.0013	0.0050	4.28%	1.18%	4.44%	3.779
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	9	8	12.03	1.019	0.8626	0.2565	0.8999	7.29%	2.17%	7.61%	3.509
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	9	9	13.67	2.261	2.151	0.9859	2.366	15.73%	7.21%	17.31%	2.400
031.01	Phosphorus, Photometric (%)	9	8	0.2669	0.0176	0.0064	0.0051	0.0082	2.45%	1.95%	3.14%	1.605
031.41	Phosphorus, ICP, Dry ash (%)	8	8	0.2677	0.0136	0.0124	0.0078	0.0147	4.63%	2.93%	5.48%	1.873
031.43	Phosphorus, ICP, Microwave (%)	10	9	0.2836	0.0246	0.0256	0.0042	0.0260	9.07%	1.49%	9.19%	6.177
032.41	Potassium, ICP, Dry ash (%)	9	8	0.8941	0.0807	0.0379	0.0169	0.0415	4.35%	1.94%	4.76%	2.460
032.43	Potassium, ICP, Microwave (%)	10	10	0.8830	0.0436	0.0397	0.0255	0.0472	4.49%	2.89%	5.34%	1.848
035.41	Sodium, ICP, Dry ash (%)	10	9	0.0145	0.0074	0.0077	0.0016	0.0079	53.33%	11.30%	54.51%	4.825
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	9	8	40.94	3.123	3.287	0.8249	3.389	8.03%	2.02%	8.28%	4.109
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	9	9	40.77	3.697	3.457	1.851	3.922	8.48%	4.54%	9.62%	2.118

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