



**AAFCO**  
Association of American Feed Control Officials



**Pet Food Ingredient Scheme**

**Dried Kelp**

**Test Material Code # 202244**

**Analyte Summary Report**

**# Labs Reporting: 80**

**# Analytes Reported: 97**

**Issue Date : 12/31/2022**

Analyte Group Code	Analyte and Method	Total # Tests Submitted	# Tests in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO #fp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
001	Loss on Drying (%)	54	52	10.28	0.3186	10.29	0.2513	0.0436	2.44%	0.1179	2.82%
002	Protein, Crude (%)	81	79	6.939	0.3112	6.951	0.2473	0.0348	3.56%	0.1819	2.99%
003	Fat, Crude (%)	44	43	2.091	0.6506	1.975	0.3416	0.0651	17.30%	0.1364	3.61%
004	Fiber, Crude (%)	31	30	3.306	0.8559	3.254	0.7200	0.1643	22.13%	0.3712	3.35%
005	Ash (%)	70	69	23.79	2.478	23.89	2.510	0.3778	10.51%	0.5953	2.05%
006	Total Sugars (%)	2	2	3.058	0.9938						
008	Fiber, Acid Detergent (%)	15	14	19.53	5.618	19.98	5.356	1.789	26.80%	1.317	2.24%
009	Fiber, Neutral Detergent (%)	12	12	26.88	10.00	26.88	11.34	4.093	42.21%	2.055	1.93%
010	Moisture (%)	5	5	10.42	1.468	10.42	1.468	0.6565	14.09%	0.1300	2.81%
011	Loss on Drying, HT (%)	19	19	11.24	0.3203	11.25	0.2390	0.0685	2.12%	0.1668	2.78%
012	Starch (%)	12	5	0.4453	0.4281	0.4453	0.4281	0.2393	96.14%	0.0803	4.52%
013	Fat, Acid Pretreat (%)	44	42	2.641	0.4664	2.625	0.4175	0.0805	15.90%	0.2473	3.46%
014	Fiber, Total Dietary (%)	2	2	49.08	0.0389						
015	Aluminum (ppm)	7	7	141.1	38.89	144.4	36.19	17.10	25.07%	3.085	7.57%
017	Boron (ppm)	4	4	84.26	1.964	84.26	1.964	0.9818	2.33%	2.240	8.21%
019	Calcium (%)	57	55	1.299	0.1569	1.273	0.0785	0.0132	6.16%	0.0422	3.86%
021	Cobalt (ppm)	11	11	2.057	0.5855	2.029	0.5970	0.2250	29.43%	0.0340	14.38%
022	Copper (ppm)	24	21	3.112	1.990	2.814	1.277	0.3482	45.36%	0.1506	13.69%
025	Iron (ppm)	28	28	322.1	56.00	325.7	45.36	10.72	13.93%	8.752	6.70%
027	Magnesium (%)	58	57	0.7326	0.0615	0.7260	0.0354	0.0059	4.87%	0.0156	4.20%
028	Manganese (ppm)	45	44	26.62	3.318	26.47	1.413	0.2663	5.34%	0.7408	9.77%
031	Phosphorus (%)	56	54	0.1396	0.0185	0.1399	0.0173	0.0029	12.39%	0.0063	5.38%
032	Potassium (%)	57	55	2.333	0.1037	2.330	0.1067	0.0180	4.58%	0.0702	3.52%
033	Salt as chloride (%)	12	11	5.166	0.4150	5.223	0.3403	0.1283	6.51%	0.0491	3.12%
034	Selenium, Total (Se) (ppm)	6	5	0.0722	0.0330	0.0722	0.0330	0.0184	45.68%	0.0037	22.00%
035	Sodium (%)	53	51	3.292	0.1943	3.281	0.1776	0.0311	5.41%	0.1051	3.34%
036	Sulfur (%)	16	15	2.568	0.2753	2.560	0.1837	0.0593	7.17%	0.0799	3.47%
037	Zinc (ppm)	25	25	7.739	2.646	7.458	2.143	0.5358	28.74%	0.6344	11.82%
038	Molybdenum (ppm)	8	8	0.7666	0.1428	0.7756	0.1408	0.0622	18.15%	0.0558	16.62%

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040	Barium (ppm)	1	1	5.369							
041	Vanadium (ppm)	2	2	2.071	0.1432						
042	Chloride (%)	1	1	2.705							
101	Choline Chloride (ppm)	1	1	39.00							
102	Niacin (ppm)	1	1	18.90							
103	Pantothenic Acid (ppm)	1	1	1.190							
104	Riboflavin (ppm)	2	2	0.6553	0.3963						
105	Thiamine (ppm)	3	2	0.2238	0.2493	0.2238	0.2493	0.1763	111.40%	0.0045	20.04%
106	Vitamin A (KU / kg)	1		0.3000							
107	Vitamin B12 (ppb)	1	1	9.905							
108	Vitamin D3 (KU / kg)	1		0.0400							
109	Vitamin E (IU / kg)	1	1	66.80							
111	Vitamin C, Phosphorylated (ppm)	1	1	367.5							
112	Pyridoxine (µg / g)	2	1	0.1550							
113	Folic Acid (ppm)	1	1	1.355							
114	Biotin (ppm)	1	1	0.0582							
120	Alanine (%)	9	9	0.3914	0.0365	<b>0.3914</b>	0.0414	0.0172	10.57%	0.0146	4.61%
121	Arginine (%)	9	9	0.2171	0.0386	<b>0.2238</b>	0.0255	0.0106	11.38%	0.0091	5.01%
122	Aspartic (%)	9	9	0.6158	0.1691	<b>0.6497</b>	0.0962	0.0401	14.81%	0.0216	4.27%
124	Cysteine/Cystine (%)	8	8	0.1086	0.0314	<b>0.1086</b>	0.0356	0.0157	32.76%	0.0038	5.59%
125	Glutamic (%)	9	9	1.043	0.3149	<b>1.046</b>	0.3489	0.1454	33.34%	0.0446	3.97%
126	Glycine (%)	9	8	0.2745	0.0686	<b>0.2924</b>	0.0259	0.0114	8.86%	0.0046	4.81%
127	Histidine (%)	9	8	0.0879	0.0214	<b>0.0850</b>	0.0171	0.0075	20.07%	0.0052	5.80%
128	Isoleucine (%)	9	9	0.2159	0.0297	<b>0.2196</b>	0.0242	0.0101	11.01%	0.0092	5.02%
129	Leucine (%)	9	9	0.3536	0.0447	<b>0.3605</b>	0.0325	0.0135	9.02%	0.0107	4.66%
130	L-Lysine (%)	9	9	0.2438	0.0449	<b>0.2478</b>	0.0411	0.0171	16.59%	0.0148	4.93%
131	Methionine (%)	9	9	0.1200	0.0162	<b>0.1208</b>	0.0164	0.0069	13.61%	0.0069	5.50%
132	Phenylalanine (%)	9	9	0.2349	0.0365	<b>0.2406</b>	0.0262	0.0109	10.88%	0.0124	4.96%
133	Proline (%)	9	9	0.2104	0.0377	<b>0.2103</b>	0.0426	0.0177	20.24%	0.0131	5.06%
134	Serine (%)	9	9	0.2222	0.0424	<b>0.2222</b>	0.0481	0.0200	21.64%	0.0047	5.02%
135	Threonine (%)	9	9	0.2451	0.0416	<b>0.2488</b>	0.0388	0.0162	15.58%	0.0086	4.93%
136	Tryptophan (%)	8	8	0.0712	0.0097	<b>0.0712</b>	0.0110	0.0049	15.41%	0.0037	5.95%
137	Tyrosine (%)	8	8	0.1149	0.0252	<b>0.1149</b>	0.0285	0.0126	24.84%	0.0041	5.54%
138	Valine (%)	9	9	0.2758	0.0409	<b>0.2824</b>	0.0288	0.0120	10.21%	0.0126	4.84%
139	Taurine (%)	4	3	0.0712	0.0899	0.0712	0.0899	0.0519	126.36%	0.0503	5.95%
160	Fructose (%)	1		0.1500							
162	Glucose (%)	1		0.1500							
163	Lactose (%)	1		0.1500							
164	Maltose (%)	1	1	1.370							
165	Sucrose (%)	1		0.1500							

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166	Raffinose (%)	1	1	0.5850							
167	Stachyose (%)	1		0.0500							
400	Water Activity (Units)	3	3	0.3812	0.0141	0.3812	0.0141	0.0081	3.70%	0.0101	
516	Arsenic, Total (As) (ppm)	4	3	25.38	1.439	25.38	1.439	0.8305	5.67%	0.4208	9.83%
518	Cadmium (ppm)	7	7	0.4889	0.1357	<b>0.4953</b>	0.1390	0.0657	28.07%	0.0185	17.78%
520	Chromium, Total (Cr) (ppm)	7	6	2.265	0.7569	<b>2.265</b>	0.8583	0.4380	37.90%	0.0517	14.14%
526	Lead (ppm)	5	4	0.0433	0.0157	0.0433	0.0157	0.0078	36.18%	0.0071	22.00%
529	Mercury (ppb)	2	2	26.57	2.932						
539	Nickel (ppm)	5	4	1.706	0.2311	1.706	0.2311	0.1156	13.55%	0.0253	14.76%
710	Lauric Acid (12:0) (%) (w/w)	2	1	0.0300							
714	Myristic Acid (14:0) (%) (w/w)	1	1	0.3200							
716	Palmitic Acid (16:0) (%) (w/w)	1	1	0.5800							
718	Palmitoleic Acid (9c-16:1) (%) (w/w)	2	2	0.0403	0.0067						
724	Oleic Acid (9c-18:1) (%) (w/w)	1	1	0.9150							
726	Linoleic Acid (9c,12c-18:2) (%) (w/w)	2	2	0.2325	0.0177						
728	alpha-Linolenic Acid (9c,12c,15c-18:3) (%) (w/w)	2	2	0.1065	0.0191						
736	Arachidonic Acid (5c,8c,11c,14c-20:4) (%) (w/w)	1	1	0.2740							
740	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5) (%) (w/w)	1	1	0.1470							
742	Behenic Acid (22:0) (%) (w/w)	1		0.0200							
746	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5) (%) (w/w)	1		0.0100							
750	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6) (%) (w/w)	1		0.0100							
754	Total n-3 Polyunsaturated (Omega-3) Fatty Acids (%) (w/w)	2	2	0.3425	0.1167						
756	Total n-6 Polyunsaturated (Omega-6) Fatty Acids (%) (w/w)	2	2	0.5950	0.0424						
758	Total Saturated Fatty Acids (%) (w/w)	2	2	0.8125	0.3076						
762	Total Monounsaturated Fatty Acids (%) (w/w)	2	2	0.9275	0.2015						
766	Total Polyunsaturated Fatty Acids (%) (w/w)	2	2	0.6700	0.5445						
770	Total Fat (equivalent to NLEA) (%) (w/w)	1	1	3.330							
772	Total Fatty Acids (%) (w/w)	1	1	3.180							

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.