



AAFCO
Association of American Feed Control Officials



Animal Feed Scheme
Cattle Mineral
Test Material Code # 202398

Analyte Summary Report

Labs Reporting: 151
Analytes Reported: 116
Issue Date : 09/30/2023

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 (Rob R-bar)	Thompson Horwitz %RSD
001	Loss on Drying (%)	55	54	2.441	0.3918	2.439	0.3426	0.0583	14.05%	0.1108	3.50%
002	Protein, Crude (%)	52	50	2.797	1.727	2.459	0.2938	0.0519	11.95%	0.1224	3.49%
003	Fat, Crude (%)	40	38	2.783	0.9839	2.572	0.2335	0.0473	9.08%	0.1262	3.47%
004	Fiber, Crude (%)	23	21	4.112	2.203	3.718	1.287	0.3510	34.61%	0.3065	3.28%
005	Ash (%)	105	103	72.45	6.209	73.41	1.031	0.1270	1.40%	0.4150	1.17%
006	Total Sugars (%)	2	2	5.885	0.5162						
008	Fiber, Acid Detergent (%)	15	14	5.208	3.964	4.268	0.8955	0.2992	20.98%	0.3146	3.21%
009	Fiber, Neutral Detergent (%)	15	14	12.76	6.207	11.63	4.300	1.437	36.98%	0.5567	2.76%
010	Moisture (%)	16	15	2.797	1.192	2.566	0.5638	0.1820	21.97%	0.1106	3.47%
011	Loss on Drying, HT (%)	53	50	3.539	0.4930	3.572	0.3842	0.0679	10.76%	0.1098	3.30%
012	Starch (%)	10	7	0.7711	0.4484	0.7628	0.4896	0.2313	64.18%	0.0588	4.17%
013	Fat, Pretreat (%)	15	15	3.152	0.9075	3.204	0.8308	0.2681	25.93%	0.2521	3.36%
015	Aluminum (ppm)	18	16	843.1	300.6	805.5	243.1	75.96	30.17%	24.21	5.84%
017	Boron (ppm)	16	15	15.32	2.542	15.07	2.194	0.7081	14.56%	0.5516	10.64%
019	Calcium (%)	122	121	12.37	2.170	12.43	0.8095	0.0920	6.51%	0.3209	2.74%
021	Cobalt (ppm)	36	35	94.57	29.64	97.59	24.89	5.258	25.50%	2.392	8.03%
022	Copper (ppm)	97	95	1,317	110.2	1,321	90.36	11.59	6.84%	45.27	5.42%
024	Iodine (ppm)	4	4	42.78	5.348	42.78	5.348	2.674	12.50%	8.573	9.09%
025	Iron (ppm)	86	84	4,122	806.4	4,214	452.3	61.69	10.73%	115.5	4.56%
027	Magnesium (%)	96	95	10.62	2.137	11.01	0.8886	0.1140	8.07%	0.3915	2.79%
028	Manganese (ppm)	93	90	1,614	158.9	1,621	135.2	17.81	8.34%	39.29	5.26%
031	Phosphorus (%)	118	116	2.578	0.3246	2.615	0.1646	0.0191	6.30%	0.0914	3.46%
032	Potassium (%)	90	89	0.8124	0.1905	0.7798	0.0802	0.0106	10.28%	0.0291	4.15%
033	Salt as chloride (%)	48	47	16.35	1.855	16.63	0.9049	0.1650	5.44%	0.2828	2.45%
034	Selenium, Total (Se) (ppm)	35	34	19.26	3.576	19.52	2.902	0.6221	14.86%	0.8061	10.23%
035	Sodium (%)	76	74	6.152	1.554	6.425	0.5375	0.0781	8.37%	0.1724	3.02%
036	Sulfur (%)	49	47	0.6691	0.1025	0.6678	0.0883	0.0161	13.23%	0.0229	4.25%
037	Zinc (ppm)	101	99	2,468	518.7	2,540	287.4	36.10	11.31%	105.1	4.92%
038	Molybdenum (ppm)	21	20	6.025	3.263	5.731	2.758	0.7709	48.13%	0.3466	12.30%

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040	Barium (ppm)	2	2	8.749	1.696						
041	Vanadium (ppm)	1	1	7.079							
042	Chloride (%)	9	8	10.03	0.6892	10.11	0.5957	0.2633	5.89%	0.0850	2.82%
102	Niacin (ppm)	1	1	5.940							
103	Pantothenic Acid (ppm)	1	1	5.260							
104	Riboflavin (ppm)	1		0.5000							
105	Thiamine (ppm)	1	1	1.170							
106	Vitamin A (KU / kg)	15	14	173.3	48.86	181.1	30.75	10.27	16.97%	6.684	
107	Vitamin B12 (ppb)	1		4.400							
108	Vitamin D3 (KU / kg)	7	3	0.7883	0.5138	0.7883	0.5138	0.3708	65.18%	0.0889	
109	Vitamin E (IU / kg)	16	16	322.3	64.74	315.5	54.16	16.93	17.17%	21.40	
111	Vitamin C, Phosphorylated (ppm)	1		4.400							
113	Folic Acid (ppm)	1	1	0.2025							
114	Biotin (ppm)	2	2	0.1443	0.0216						
115	Non Protein N (NPN) (%)	1	1	0.1112							
120	Alanine (%)	5	5	0.0941	0.0098	0.0941	0.0098	0.0044	10.43%	0.0043	5.71%
121	Arginine (%)	5	4	0.0781	0.0025	0.0781	0.0025	0.0013	3.24%	0.0050	5.87%
122	Aspartic (%)	5	5	0.2547	0.0129	0.2547	0.0129	0.0058	5.06%	0.0118	4.91%
124	Cysteine/Cystine (%)	5	4	0.0191	0.0022	0.0191	0.0022	0.0011	11.65%	0.0020	7.26%
125	Glutamic (%)	5	5	0.2800	0.0147	0.2800	0.0147	0.0066	5.24%	0.0135	4.84%
126	Glycine (%)	5	4	0.1231	0.0066	0.1231	0.0066	0.0033	5.37%	0.0063	5.48%
127	Histidine (%)	5	3	0.0362	0.0111	0.0362	0.0111	0.0064	30.74%		6.59%
128	Isoleucine (%)	5	5	0.0674	0.0025	0.0674	0.0025	0.0011	3.72%	0.0053	6.00%
129	Leucine (%)	5	5	0.1041	0.0119	0.1041	0.0119	0.0053	11.46%	0.0058	5.62%
130	L-Lysine (%)	5	5	0.0809	0.0069	0.0809	0.0069	0.0031	8.57%	0.0053	5.84%
131	Methionine (%)	5	3	0.0117	0.0025	0.0117	0.0025	0.0014	21.03%		7.81%
132	Phenylalanine (%)	5	4	0.0668	0.0017	0.0668	0.0017	0.0009	2.56%	0.0067	6.01%
133	Proline (%)	4	4	0.0818	0.0082	0.0818	0.0082	0.0041	10.06%	0.0020	5.83%
134	Serine (%)	5	5	0.0921	0.0125	0.0921	0.0125	0.0056	13.55%	0.0063	5.73%
135	Threonine (%)	5	4	0.0579	0.0027	0.0579	0.0027	0.0013	4.60%	0.0015	6.14%
136	Tryptophan (%)	6	5	0.0185	0.0035	0.0185	0.0035	0.0020	19.03%	0.0010	7.29%
137	Tyrosine (%)	6	4	0.0514	0.0177	0.0514	0.0177	0.0094	34.43%	0.0023	6.25%
138	Valine (%)	5	3	0.0912	0.0045	0.0912	0.0045	0.0026	4.91%		5.74%
139	Taurine (%)	4	2	0.0095	0.0050	0.0095	0.0050	0.0035	52.11%		8.06%
160	Fructose (%)	2	2	0.5300	0.0424						
161	Galactose (%)	1		0.0000							
162	Glucose (%)	2	1	0.1400							
163	Lactose (%)	2		0.0000							
164	Maltose (%)	2		0.0000							
165	Sucrose (%)	2	2	3.708	0.0318						

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166	Raffinose (%)	2		0.0000							
167	Stachyose (%)	2	1	0.1000							
351	Chlortetracycline (ppm)	1		15.00							
354	Decoquinatate (ppm)	1		0.1000							
361	Lasalocid Sodium (ppm)	1		1.000							
365	Monensin (ppm)	1		2.000							
367	Nicarbazin (ppm)	1		3.000							
386	Tiamulin (ppm)	1		1.000							
388	Tylosin (ppm)	1		10.00							
392	Fenbendazole (ppm)	1		1.000							
400	Water Activity (Units)	7	6	0.4071	0.0132	0.4069	0.0146	0.0074	3.58%	0.0019	
516	Arsenic, Total (As) (ppm)	11	10	1.163	1.781	0.6000	0.4017	0.1588	66.94%	0.0453	17.27%
518	Cadmium (ppm)	15	14	0.6187	0.1176	0.6174	0.1238	0.0413	20.05%	0.0092	17.20%
520	Chromium, Total (Cr) (ppm)	18	18	108.2	32.80	111.2	29.01	8.546	26.09%	4.707	7.87%
526	Lead (ppm)	13	11	0.7858	0.2057	0.7803	0.2211	0.0833	28.33%	0.0387	16.61%
529	Mercury (ppb)	5	1								
539	Nickel (ppm)	12	11	34.89	14.52	35.46	15.13	5.703	42.67%	1.146	9.35%
702	Butyric Acid (4:0) (%)	1		0.0200							
704	Caproic Acid (6:0) (%)	1		0.0200							
706	Caprylic acid (8:0) (%) (w/w)	1		0.0200							
708	Capric acid (10:0) (%) (w/w)	1		0.0200							
710	Lauric Acid (12:0) (%) (w/w)	1		0.0200							
714	Myristic Acid (14:0) (%) (w/w)	1	1	0.0350							
716	Palmitic Acid (16:0) (%) (w/w)	1	1	0.5960							
718	Palmitoleic Acid (9c-16:1) (%) (w/w)	1	1	0.0275							
720	Margaric acid (17:0) (%) (w/w)	1		0.0200							
722	Stearic Acid (18:0) (%) (w/w)	1	1	0.3045							
724	Oleic Acid (9c-18:1) (%) (w/w)	1	1	0.4885							
726	Linoleic Acid (9c,12c-18:2) (%) (w/w)	1	1	0.0705							
728	alpha-Linolenic Acid (9c,12c,15c-18:3) (%) (w/w)	1		0.0200							
730	Arachidic Acid (20:0) (%) (w/w)	1		0.0200							
732	Gondoic Acid (11c-20:1) (%) (w/w)	1		0.0200							
736	Arachidonic Acid (5c,8c,11c,14c-20:4) (%) (w/w)	1		0.0200							
740	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5) (%) (w/w)	1		0.0200							
742	Behenic Acid (22:0) (%) (w/w)	1		0.0200							
744	Erucic Acid (13c-22:1) (%) (w/w)	1		0.0200							
746	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5) (%) (w/w)	1		0.0200							
748	Lignoceric Acid (24:0) (%) (w/w)	1		0.0200							
750	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6) (%) (w/w)	1		0.0200							
752	Nervonic Acid (24:1) isomers (%) (w/w)	1		0.0200							

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754	Total n-3 Polyunsaturated (Omega-3) Fatty Acids (% (w/w))	1		0.0200							
756	Total n-6 Polyunsaturated (Omega-6) Fatty Acids (% (w/w))	1	1	0.0750							
758	Total Saturated Fatty Acids (% (w/w))	1	1	0.9815							
764	Total cis Monounsaturated Fatty Acids (% (w/w))	1	1	0.5765							
768	Total cis Polyunsaturated Fatty Acids (% (w/w))	1	1	0.0885							
770	Total Fat (equivalent to NLEA) (% (w/w))	1	1	1.743							
772	Total Fatty Acids (% (w/w))	1	1	1.664							

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.