AAFCO
Association of American Feed Control Officials

ANAB ACCREDITED ISO/IEC 17043 PROFICIENCY TESTING PROVIDER

AAFCO PTP Animal Feed Scheme

# Animal Feed Scheme

## Beef Feed, Medicated

## Test Material Code # 202329

## Method Summary Report

(Precision Report Follows)

**# Labs Reporting: 167**

**# Methods Reported: 391**

**Issue Date : 10/31/2023**

| Method Code | Analyte and Method | Total # Labs Submitting | # Labs in Robust Calcs | Raw Mean | Raw SD | Assigned Value Robust Mean | AAFCO ffp Robust SD | Uncertainty (U) - Robust | % RSD - Robust | Average Range (Rob R-bar) | Thompson Horwitz %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 000.02 | Urea, As protein, Colorimetric (%) | 1 | 1 | 1.050 | | | | | | | |
| 001.07 | Loss on Drying, 104°C 3 hr, in malt (%) | 47 | **46** | 8.851 | 0.3481 | **8.884** | 0.2764 | 0.0509 | 3.11% | 0.1362 | 2.88% |
| 001.99 | Loss on Drying, Miscellaneous (%) | 16 | **15** | 8.763 | 0.7176 | **8.789** | 0.7530 | 0.2430 | 8.57% | 0.1083 | 2.88% |
| 001.00 | Loss on Drying, Vac 95°C 5 hr (%) | 4 | 3 | 8.978 | 0.0929 | 8.978 | 0.0929 | 0.0537 | 1.04% | 0.0060 | 2.87% |
| 001.03 | Loss on Drying, Low temp. methods (%) | 2 | 2 | 9.270 | 0.3323 | | | | | | |
| 001.05 | Loss on Drying, LECO (%) | 1 | 1 | 9.033 | | | | | | | |
| 002.06 | Protein, Crude, Combustion Nitrogen Analyzer (%) | 109 | **107** | 34.68 | 0.5561 | **34.73** | 0.2921 | 0.0353 | 0.84% | 0.2349 | 1.70% |
| 002.05 | Protein, Crude, Copper, Boric Acid (%) | 21 | **20** | 34.94 | 1.795 | **34.45** | 0.5000 | 0.1398 | 1.45% | 0.1448 | 1.70% |
| 002.01 | Protein, Crude, Auto Kjel-Foss (%) | 15 | **14** | 34.48 | 1.627 | **34.08** | 0.2896 | 0.0968 | 0.85% | 0.1915 | 1.71% |
| 002.11 | Protein, Crude, NIR (%) | 6 | **6** | 32.54 | 10.17 | **34.93** | 5.397 | 2.754 | 15.45% | 0.2067 | 1.69% |
| 002.00 | Protein, Crude, Crude (%) | 2 | 2 | 33.80 | 0.3571 | | | | | | |
| 002.02 | Protein, Crude, Semiauto Autoanalyzer (%) | 1 | 1 | 34.15 | | | | | | | |
| 002.04 | Protein, Crude, Copper Catalyst (%) | 1 | 1 | 34.62 | | | | | | | |
| 002.08 | Protein, Crude, Cu/Ti (%) | 1 | 1 | 34.60 | | | | | | | |
| 003.14 | Fat, Crude, Ankom (%) | 53 | **51** | 2.294 | 0.2879 | **2.285** | 0.2670 | 0.0467 | 11.69% | 0.0749 | 3.53% |
| 003.10 | Fat, Crude, Randall, Pet Ether (%) | 26 | **26** | 2.036 | 0.3614 | **2.096** | 0.1904 | 0.0467 | 9.09% | 0.0667 | 3.58% |
| 003.00 | Fat, Crude, Diethyl Ether Ext., Direct (%) | 12 | **12** | 2.285 | 0.1815 | **2.288** | 0.1999 | 0.0721 | 8.74% | 0.1210 | 3.53% |
| 003.06 | Fat, Crude, Pet Ether (%) | 11 | **11** | 2.216 | 0.1989 | **2.208** | 0.2069 | 0.0780 | 9.37% | 0.0647 | 3.55% |
| 003.09 | Fat, Crude, Randall, Diethyl Ether Ext (%) | 8 | **8** | 2.348 | 0.2656 | **2.298** | 0.1663 | 0.0735 | 7.24% | 0.1535 | 3.53% |
| 003.11 | Fat, Crude, NIR (%) | 4 | 4 | 3.076 | 0.7651 | 3.076 | 0.7651 | 0.3825 | 24.87% | 0.0525 | 3.38% |
| 003.13 | Fat, Crude, Randall, Hexane Ext. (%) | 4 | 4 | 2.172 | 0.2186 | 2.172 | 0.2186 | 0.1093 | 10.06% | 0.1888 | 3.56% |
| 003.01 | Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%) | 2 | 2 | 2.225 | 0.1556 | | | | | | |
| 003.12 | Fat, Crude, Hexane Ext (%) | 1 | 1 | 2.085 | | | | | | | |
| 003.99 | Fat, Crude, Miscellaneous (%) | 1 | 1 | 2.100 | | | | | | | |
| 004.07 | Fiber, Crude, ANKOM (%) | 76 | **75** | 6.512 | 1.020 | **6.482** | 0.8687 | 0.1254 | 13.40% | 0.2228 | 3.02% |
| 004.06 | Fiber, Crude, Fibertec (%) | 16 | **16** | 5.806 | 0.4932 | **5.792** | 0.5045 | 0.1577 | 8.71% | 0.1651 | 3.07% |
| 004.00 | Fiber, Crude, Asbestos Free (%) | 10 | **10** | 6.589 | 0.7959 | **6.539** | 0.7834 | 0.3097 | 11.98% | 0.2381 | 3.02% |
| 004.03 | Fiber, Crude, Fritted Glass (%) | 4 | 4 | 6.794 | 1.640 | 6.794 | 1.640 | 0.8198 | 24.13% | 0.2275 | 3.00% |
| 004.11 | Fiber, Crude, NIR (%) | 4 | 4 | 11.68 | 10.01 | 11.68 | 10.01 | 5.005 | 85.67% | 0.0650 | 2.76% |

| Method Code | Analyte and Method | Total # Labs Submitting | # Labs in Robust Calcs | Raw Mean | Raw SD | Assigned Value Robust Mean | AAFCO ffp Robust SD | Uncertainty (U) - Robust | % RSD - Robust | Average Range (Rob R-bar) | Thompson Horwitz %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 004.99 | Fiber, Crude, Miscellaneous (%) | 2 | 2 | 5.608 | 0.8379 | | | | | | |
| 005.00 | Ash, 2h @ 600°C (%) | 86 | **85** | 16.32 | 0.4325 | **16.33** | 0.4397 | 0.0596 | 2.69% | 0.1411 | 2.47% |
| 005.05 | Ash, 3h @ 550°C (%) | 28 | **27** | 16.86 | 0.4874 | **16.85** | 0.4045 | 0.0973 | 2.40% | 0.1659 | 2.44% |
| 005.99 | Ash, Miscellaneous (%) | 9 | **9** | 16.93 | 0.5969 | **16.99** | 0.5242 | 0.2184 | 3.09% | 0.1000 | 2.43% |
| 005.11 | Ash, NIR (%) | 4 | 4 | 11.42 | 3.759 | 11.42 | 3.759 | 1.880 | 32.93% | 0.1713 | 2.77% |
| 005.02 | Ash, LECO (%) | 1 | 1 | 16.77 | | | | | | | |
| 005.03 | Ash, Microwave furnace (%) | 1 | 1 | 15.45 | | | | | | | |
| 006.99 | Total Sugars, Miscellaneous (%) | 5 | 4 | 6.919 | 2.388 | 6.919 | 2.388 | 1.379 | 34.51% | 0.0967 | 2.99% |
| 006.00 | Total Sugars, As sucrose (%) | 3 | 3 | 7.887 | 0.1415 | 7.887 | 0.1415 | 0.0817 | 1.79% | 0.2400 | 2.93% |
| 006.01 | Total Sugars, Mod. Fehling Soln (%) | 1 | 1 | 7.865 | | | | | | | |
| 008.08 | Fiber, Acid Detergent, Filter Bag - ANKOM (%) | 47 | **45** | 8.391 | 0.8395 | **8.370** | 0.6386 | 0.1190 | 7.63% | 0.2473 | 2.91% |
| 008.02 | Fiber, Acid Detergent, Crucible (%) | 12 | **12** | 8.299 | 0.4958 | **8.313** | 0.5299 | 0.1912 | 6.37% | 0.2355 | 2.91% |
| 008.99 | Fiber, Acid Detergent, Miscellaneous (%) | 3 | 3 | 9.285 | 0.9792 | 9.285 | 0.9792 | 0.5653 | 10.55% | 0.2837 | 2.86% |
| 009.09 | Fiber, Neutral Detergent, Filter Bag - ANKOM (%) | 43 | **41** | 13.61 | 1.473 | **13.46** | 1.223 | 0.2388 | 9.09% | 0.2485 | 2.70% |
| 009.07 | Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%) | 12 | **12** | 15.13 | 6.846 | **13.42** | 1.679 | 0.6059 | 12.51% | 0.5151 | 2.71% |
| 009.99 | Fiber, Neutral Detergent, Miscellaneous (%) | 2 | 2 | 31.83 | 25.21 | | | | | | |
| 010.99 | Moisture, Miscellaneous (%) | 16 | **16** | 8.774 | 0.5269 | **8.798** | 0.5452 | 0.1704 | 6.20% | 0.1051 | 2.88% |
| 010.11 | Moisture, NIR (%) | 4 | 4 | 9.024 | 1.037 | 9.024 | 1.037 | 0.5185 | 11.49% | 0.1017 | 2.87% |
| 010.03 | Moisture, Karl-Fischer (%) | 1 | 1 | 9.045 | | | | | | | |
| 011.01 | Loss on Drying, HT, 135°C 2hr (%) | 56 | **55** | 9.830 | 0.6574 | **9.815** | 0.4027 | 0.0679 | 4.10% | 0.0937 | 2.84% |
| 011.02 | Loss on Drying, HT, 130°C for 2 hours (%) | 3 | 3 | 10.94 | 1.813 | 10.94 | 1.813 | 1.047 | 16.57% | 0.0933 | 2.79% |
| 011.99 | Loss on Drying, HT, High Temp. Methods Miscellaneous (%) | 3 | 3 | 9.715 | 0.5361 | 9.715 | 0.5361 | 0.3095 | 5.52% | 0.5173 | 2.84% |
| 012.01 | Starch, Enzymatic-Colorimetric Method (Megazyme) (%) | 11 | **11** | 2.741 | 1.150 | **2.818** | 0.7344 | 0.2768 | 26.06% | 0.1874 | 3.42% |
| 012.00 | Starch, Polarimetric (Ewers) (%) | 10 | **10** | 4.670 | 1.349 | **4.670** | 1.529 | 0.6045 | 32.75% | 0.1885 | 3.17% |
| 012.04 | Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%) | 7 | **6** | 2.807 | 0.9023 | **2.616** | 0.5365 | 0.2738 | 20.51% | 0.1156 | 3.46% |
| 012.11 | Starch, NIR (%) | 3 | 3 | 7.244 | 6.862 | 7.244 | 6.862 | 3.962 | 94.72% | 0.3650 | 2.97% |
| 012.03 | Starch, Enzymatic-Colorimetric Method, Miscellaneous (%) | 2 | 2 | 2.992 | 0.0817 | | | | | | |
| 012.99 | Starch, Miscellaneous (%) | 2 | 2 | 4.234 | 1.083 | | | | | | |
| 012.20 | Starch, Dietary, Enzymatic-Colorimetric (%) | 1 | 1 | 2.925 | | | | | | | |
| 013.00 | Fat, Pretreat, Acid hydrolysis (%) | 15 | **15** | 3.189 | 0.5611 | **3.177** | 0.6114 | 0.1973 | 19.24% | 0.1555 | 3.36% |
| 013.02 | Fat, Pretreat, Mojonnier, Bak Ext, Acid hydrolysis (%) | 14 | **14** | 3.645 | 0.3429 | **3.650** | 0.3382 | 0.1130 | 9.26% | 0.2530 | 3.29% |
| 013.13 | Fat, Pretreat, Ankom- Acid Hydrolysis (%) | 8 | **8** | 2.972 | 0.4999 | **2.980** | 0.5475 | 0.2420 | 18.37% | 0.2462 | 3.39% |
| 013.10 | Fat, Pretreat, Soxtec-Acid Hydrolysis (%) | 6 | **6** | 2.944 | 0.2543 | **2.944** | 0.2883 | 0.1471 | 9.79% | 0.1060 | 3.40% |
| 013.08 | Fat, Pretreat, Roese-Gottlieb Modified, Alkaline Hydrolysis (%) | 1 | 1 | 2.718 | | | | | | | |
| 013.99 | Fat, Pretreat, Miscellaneous (%) | 1 | 1 | 3.045 | | | | | | | |
| 015.43 | Aluminum, ICP, Microwave (ppm) | 7 | **7** | 382.3 | 48.35 | **382.3** | 54.83 | 25.91 | 14.34% | 7.793 | 6.54% |
| 015.41 | Aluminum, ICP, Dry ash (ppm) | 4 | 4 | 373.0 | 15.38 | 373.0 | 15.38 | 7.690 | 4.12% | 6.659 | 6.56% |
| 015.42 | Aluminum, ICP, Open vessel (ppm) | 3 | 3 | 197.2 | 71.81 | 197.2 | 71.81 | 41.46 | 36.41% | 11.07 | 7.22% |
| 015.53 | Aluminum, ICP-MS, Microwave (ppm) | 2 | 2 | 385.8 | 39.33 | | | | | | |
| 015.99 | Aluminum, Miscellaneous (ppm) | 1 | 1 | 239.5 | | | | | | | |

**Test Material Code # 202329** **(Precision Report Follows)** **Issue Date : 10/31/2023**

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 017.43 | Boron, ICP, Microwave (ppm) | 6 | **6** | 19.40 | 9.287 | **19.59** | 10.08 | 5.146 | 51.46% | 0.8297 | 10.22% |
| 017.41 | Boron, ICP, Dry ash (ppm) | 4 | 4 | 27.01 | 1.500 | 27.01 | 1.500 | 0.7501 | 5.55% | 0.7346 | 9.74% |
| 017.42 | Boron, ICP, Open vessel (ppm) | 4 | 4 | 25.09 | 2.057 | 25.09 | 2.057 | 1.028 | 8.20% | 2.095 | 9.85% |
| 017.53 | Boron, ICP-MS, Microwave (ppm) | 1 | 1 | 30.73 | | | | | | | |
| 017.99 | Boron, Miscellaneous (ppm) | 1 | 1 | 25.70 | | | | | | | |
| 019.43 | Calcium, ICP, Microwave (%) | 27 | **27** | 3.367 | 0.1956 | **3.382** | 0.1737 | 0.0418 | 5.13% | 0.1237 | 3.33% |
| 019.41 | Calcium, ICP, Dry ash (%) | 21 | **20** | 3.256 | 0.1504 | **3.256** | 0.1705 | 0.0477 | 5.24% | 0.0680 | 3.35% |
| 019.42 | Calcium, ICP, Open vessel (%) | 20 | **19** | 3.408 | 0.3209 | **3.412** | 0.2943 | 0.0844 | 8.62% | 0.0704 | 3.33% |
| 019.31 | Calcium, AAS, Dry ash (%) | 12 | **11** | 3.173 | 0.4405 | **3.274** | 0.1758 | 0.0663 | 5.37% | 0.0485 | 3.35% |
| 019.08 | Calcium, EDTA (%) | 9 | **9** | 3.382 | 0.0958 | **3.382** | 0.1087 | 0.0453 | 3.21% | 0.0178 | 3.33% |
| 019.00 | Calcium, Ox-Mn04 Vol. (%) | 6 | **6** | 3.385 | 0.1011 | **3.385** | 0.1147 | 0.0585 | 3.39% | 0.0436 | 3.33% |
| 019.99 | Calcium, Miscellaneous (%) | 6 | **6** | 2.844 | 1.018 | **3.185** | 0.2402 | 0.1226 | 7.54% | 0.0960 | 3.36% |
| 019.52 | Calcium, ICP-MS, Open vessel (%) | 3 | 3 | 3.463 | 0.4464 | 3.463 | 0.4464 | 0.3156 | 12.89% | 0.0487 | 3.32% |
| 019.44 | Calcium, ICP, Dry ash (%) | 2 | 2 | 3.416 | 0.0364 | | | | | | |
| 019.53 | Calcium, ICP-MS, Microwave (%) | 2 | 2 | 3.381 | 0.1080 | | | | | | |
| 019.09 | Calcium, Ion-selective electrode (%) | 1 | 1 | 3.310 | | | | | | | |
| 019.32 | Calcium, AAS, Open vessel (%) | 1 | 1 | 3.310 | | | | | | | |
| 019.33 | Calcium, AAS, Microwave (%) | 1 | 1 | 3.385 | | | | | | | |
| 021.43 | Cobalt, ICP, Microwave (ppm) | 10 | **10** | 3.696 | 0.6107 | **3.757** | 0.5375 | 0.2125 | 14.31% | 0.1187 | 13.11% |
| 021.41 | Cobalt, ICP, Dry ash (ppm) | 6 | **6** | 3.258 | 0.9222 | **3.384** | 0.7376 | 0.3764 | 21.80% | 0.0937 | 13.32% |
| 021.42 | Cobalt, ICP, Open vessel (ppm) | 4 | 3 | 3.347 | 0.0574 | 3.347 | 0.0574 | 0.0332 | 1.72% | 0.1867 | 13.34% |
| 021.52 | Cobalt, ICP-MS, Open vessel (ppm) | 3 | 3 | 2.937 | 0.2479 | 2.937 | 0.2479 | 0.1431 | 8.44% | 0.1933 | 13.60% |
| 021.53 | Cobalt, ICP-MS, Microwave (ppm) | 3 | 3 | 3.014 | 0.9029 | 3.014 | 0.9029 | 0.5213 | 29.96% | 0.2710 | 13.55% |
| 021.31 | Cobalt, AAS, Dry ash (ppm) | 1 | 1 | 3.465 | | | | | | | |
| 021.99 | Cobalt, Miscellaneous (ppm) | 1 | 1 | 3.585 | | | | | | | |
| 022.43 | Copper, ICP, Microwave (ppm) | 27 | **26** | 65.84 | 5.589 | **65.73** | 5.203 | 1.276 | 7.92% | 1.793 | 8.52% |
| 022.42 | Copper, ICP, Open vessel (ppm) | 22 | **21** | 65.70 | 4.307 | **66.25** | 3.250 | 0.8866 | 4.91% | 2.434 | 8.51% |
| 022.41 | Copper, ICP, Dry ash (ppm) | 15 | **15** | 62.09 | 5.385 | **61.95** | 5.169 | 1.668 | 8.34% | 1.665 | 8.60% |
| 022.31 | Copper, AAS, Dry ash (ppm) | 5 | 4 | 65.95 | 4.855 | 65.95 | 4.855 | 2.427 | 7.36% | 1.047 | 8.52% |
| 022.44 | Copper, ICP, Dry ash (ppm) | 3 | 3 | 63.39 | 4.924 | 63.39 | 4.924 | 2.843 | 7.77% | 2.969 | 8.57% |
| 022.99 | Copper, Miscellaneous (ppm) | 3 | 3 | 60.98 | 4.189 | 60.98 | 4.189 | 2.419 | 6.87% | 2.850 | 8.62% |
| 022.52 | Copper, ICP-MS, Open vessel (ppm) | 2 | 2 | 69.26 | 10.20 | | | | | | |
| 022.53 | Copper, ICP-MS, Microwave (ppm) | 2 | 2 | 68.59 | 9.558 | | | | | | |
| 022.32 | Copper, AAS, Open vessel (ppm) | 1 | 1 | 68.55 | | | | | | | |
| 022.33 | Copper, AAS, Microwave (ppm) | 1 | 1 | 65.99 | | | | | | | |
| 024.52 | Iodine, ICP-MS, Open vessel (ppm) | 1 | 1 | 5.474 | | | | | | | |
| 025.43 | Iron, ICP, Microwave (ppm) | 24 | **23** | 614.9 | 45.61 | **614.0** | 49.20 | 12.82 | 8.01% | 19.21 | 6.09% |
| 025.42 | Iron, ICP, Open vessel (ppm) | 20 | **20** | 503.7 | 145.2 | **539.6** | 83.06 | 23.22 | 15.39% | 21.53 | 6.21% |
| 025.41 | Iron, ICP, Dry ash (ppm) | 17 | **16** | 592.5 | 46.89 | **596.6** | 42.08 | 13.15 | 7.05% | 10.55 | 6.11% |
| 025.31 | Iron, AAS, Dry ash (ppm) | 7 | **7** | 631.9 | 40.30 | **631.9** | 45.70 | 21.59 | 7.23% | 20.50 | 6.06% |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 025.99 | Iron, Miscellaneous (ppm) | 3 | 3 | 578.8 | 34.65 | 578.8 | 34.65 | 20.00 | 5.99% | 26.33 | 6.14% |
| 025.53 | Iron, ICP-MS, Microwave (ppm) | 2 | 2 | 553.0 | 75.67 | | | | | | |
| 025.33 | Iron, AAS, Microwave (ppm) | 1 | 1 | 639.1 | | | | | | | |
| 025.52 | Iron, ICP-MS, Open vessel (ppm) | 1 | 1 | 324.1 | | | | | | | |
| 027.43 | Magnesium, ICP, Microwave (%) | 26 | **26** | 0.4848 | 0.0240 | **0.4847** | 0.0258 | 0.0063 | 5.32% | 0.0174 | 4.46% |
| 027.42 | Magnesium, ICP, Open vessel (%) | 21 | **21** | 0.4842 | 0.0321 | **0.4849** | 0.0307 | 0.0084 | 6.33% | 0.0147 | 4.46% |
| 027.41 | Magnesium, ICP, Dry ash (%) | 16 | **16** | 0.4722 | 0.0247 | **0.4731** | 0.0260 | 0.0081 | 5.50% | 0.0098 | 4.48% |
| 027.31 | Magnesium, AAS, Dry ash (%) | 5 | 4 | 0.4809 | 0.0155 | 0.4809 | 0.0155 | 0.0090 | 3.23% | 0.0055 | 4.47% |
| 027.52 | Magnesium, ICP-MS, Open vessel (%) | 3 | 3 | 0.5032 | 0.0157 | 0.5032 | 0.0157 | 0.0091 | 3.12% | 0.0231 | 4.44% |
| 027.99 | Magnesium, Miscellaneous (%) | 4 | 3 | 0.4883 | 0.0104 | 0.4883 | 0.0104 | 0.0060 | 2.13% | 0.0150 | 4.46% |
| 027.44 | Magnesium, ICP, Dry ash (%) | 2 | 2 | 0.4819 | 0.0137 | | | | | | |
| 027.53 | Magnesium, ICP-MS, Microwave (%) | 2 | 2 | 0.4887 | 0.0123 | | | | | | |
| 027.32 | Magnesium, AAS, Open vessel (%) | 1 | 1 | 0.4700 | | | | | | | |
| 028.43 | Manganese, ICP, Microwave (ppm) | 25 | **24** | 312.1 | 23.19 | **310.8** | 22.71 | 5.796 | 7.31% | 9.453 | 6.74% |
| 028.42 | Manganese, ICP, Open vessel (ppm) | 22 | **22** | 316.7 | 17.63 | **317.7** | 13.02 | 3.470 | 4.10% | 10.01 | 6.72% |
| 028.41 | Manganese, ICP, Dry ash (ppm) | 14 | **14** | 304.8 | 22.86 | **306.8** | 17.09 | 5.710 | 5.57% | 7.338 | 6.76% |
| 028.31 | Manganese, AAS, Dry ash (ppm) | 6 | **6** | 321.8 | 43.77 | **315.8** | 34.69 | 17.70 | 10.98% | 5.515 | 6.73% |
| 028.44 | Manganese, ICP, Dry ash (ppm) | 4 | 4 | 283.4 | 35.12 | 283.4 | 35.12 | 17.56 | 12.39% | 20.00 | 6.84% |
| 028.53 | Manganese, ICP-MS, Microwave (ppm) | 3 | 3 | 332.4 | 27.82 | 332.4 | 27.82 | 16.06 | 8.37% | 18.07 | 6.68% |
| 028.99 | Manganese, Miscellaneous (ppm) | 3 | 3 | 313.2 | 21.29 | 313.2 | 21.29 | 12.29 | 6.80% | 10.33 | 6.74% |
| 028.52 | Manganese, ICP-MS, Open vessel (ppm) | 2 | 2 | 335.8 | 1.644 | | | | | | |
| 028.32 | Manganese, AAS, Open vessel (ppm) | 1 | 1 | 330.5 | | | | | | | |
| 028.33 | Manganese, AAS, Microwave (ppm) | 1 | 1 | 339.0 | | | | | | | |
| 030.01 | Nitrate, Ion-selective electrode (%) | 1 | 1 | 0.0051 | | | | | | | |
| 031.43 | Phosphorus, ICP, Microwave (%) | 29 | **28** | 1.531 | 0.1199 | **1.530** | 0.1061 | 0.0251 | 6.94% | 0.0314 | 3.75% |
| 031.01 | Phosphorus, Photometric (%) | 26 | **25** | 1.446 | 0.0659 | **1.456** | 0.0481 | 0.0120 | 3.30% | 0.0188 | 3.78% |
| 031.42 | Phosphorus, ICP, Open vessel (%) | 21 | **21** | 1.508 | 0.1024 | **1.505** | 0.0959 | 0.0262 | 6.37% | 0.0462 | 3.76% |
| 031.41 | Phosphorus, ICP, Dry ash (%) | 20 | **19** | 1.459 | 0.0797 | **1.460** | 0.0869 | 0.0249 | 5.95% | 0.0239 | 3.78% |
| 031.44 | Phosphorus, ICP, Dry ash (%) | 3 | 3 | 1.449 | 0.0574 | 1.449 | 0.0574 | 0.0331 | 3.96% | 0.0354 | 3.78% |
| 031.99 | Phosphorus, Miscellaneous (%) | 4 | 3 | 1.463 | 0.0802 | 1.463 | 0.0802 | 0.0463 | 5.48% | 0.0400 | 3.78% |
| 031.03 | Phosphorus, Autoanalyzer (%) | 2 | 2 | 1.457 | 0.0240 | | | | | | |
| 031.52 | Phosphorus, ICP-MS, Open vessel (%) | 2 | 2 | 1.617 | 0.2263 | | | | | | |
| 031.53 | Phosphorus, ICP-MS, Microwave (%) | 2 | 2 | 1.602 | 0.0877 | | | | | | |
| 032.43 | Potassium, ICP, Microwave (%) | 28 | **28** | 1.878 | 0.0868 | **1.877** | 0.0798 | 0.0189 | 4.25% | 0.0542 | 3.64% |
| 032.42 | Potassium, ICP, Open vessel (%) | 20 | **20** | 1.981 | 0.1704 | **1.956** | 0.1130 | 0.0316 | 5.78% | 0.0511 | 3.62% |
| 032.41 | Potassium, ICP, Dry ash (%) | 17 | **16** | 1.861 | 0.1054 | **1.861** | 0.1195 | 0.0374 | 6.42% | 0.0321 | 3.64% |
| 032.99 | Potassium, Miscellaneous (%) | 6 | **6** | 1.606 | 0.5386 | **1.739** | 0.2689 | 0.1372 | 15.46% | 0.0478 | 3.68% |
| 032.31 | Potassium, AAS, Dry ash (%) | 5 | 4 | 1.808 | 0.0885 | 1.808 | 0.0885 | 0.0511 | 4.89% | | 3.66% |
| 032.52 | Potassium, ICP-MS, Open vessel (%) | 3 | 3 | 1.791 | 0.2012 | 1.791 | 0.2012 | 0.1162 | 11.23% | 0.0334 | 3.66% |
| 032.44 | Potassium, ICP, Dry ash (%) | 2 | 2 | 1.886 | 0.0131 | | | | | | |

| Method Code | Analyte and Method | Total # Labs Submitting | # Labs in Robust Calcs | Raw Mean | Raw SD | Assigned Value Robust Mean | AAFCO ffp Robust SD | Uncertainty (U) - Robust | % RSD - Robust | Average Range (Rob R-bar) | Thompson Horwitz %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 032.53 | Potassium, ICP-MS, Microwave (%) | 2 | 2 | 1.910 | 0.0289 | | | | | | |
| 032.08 | Potassium, Ion-selective electrode (%) | 1 | 1 | 1.720 | | | | | | | |
| 032.32 | Potassium, AAS, Open vessel (%) | 1 | 1 | 1.785 | | | | | | | |
| 033.01 | Salt as chloride, Poten Cl (%) | 27 | **27** | 2.535 | 0.0449 | **2.538** | 0.0424 | 0.0102 | 1.67% | 0.0188 | 3.48% |
| 033.00 | Salt as chloride, Sol Cl (%) | 16 | **16** | 2.290 | 0.6125 | **2.465** | 0.1329 | 0.0415 | 5.39% | 0.0413 | 3.49% |
| 033.99 | Salt, Miscellaneous (%) | 8 | **8** | 2.476 | 0.0677 | **2.476** | 0.0768 | 0.0339 | 3.10% | 0.0413 | 3.49% |
| 033.03 | Salt as chloride, Quantab (%) | 5 | 5 | 2.432 | 0.2315 | 2.432 | 0.2315 | 0.1035 | 9.52% | 0.1900 | 3.50% |
| 033.05 | Salt as chloride, Ion Sel Electrode (%) | 4 | 3 | 2.300 | 0.1754 | 2.300 | 0.1754 | 0.1013 | 7.63% | 0.0100 | 3.53% |
| 034.43 | Selenium, Total (Se), ICP, Microwave (ppm) | 5 | 4 | 2.153 | 0.3582 | 2.153 | 0.3582 | 0.1791 | 16.63% | 0.0519 | 14.25% |
| 034.53 | Selenium, Total (Se), ICP-MS, Microwave (ppm) | 4 | 4 | 2.195 | 0.5350 | 2.195 | 0.5350 | 0.2675 | 24.38% | 0.0781 | 14.21% |
| 034.04 | Selenium, Total (Se), AA, Hydride (ppm) | 3 | 3 | 1.735 | 0.2048 | 1.735 | 0.2048 | 0.1182 | 11.80% | 0.1567 | 14.72% |
| 034.52 | Selenium, Total (Se), ICP-MS, Open vessel (ppm) | 3 | 3 | 1.991 | 0.4824 | 1.991 | 0.4824 | 0.2785 | 24.23% | 0.0340 | 14.42% |
| 034.41 | Selenium, Total (Se), ICP, Dry ash (ppm) | 2 | 2 | 1.800 | 0.0566 | | | | | | |
| 034.01 | Selenium, Total (Se), Fluor (ppm) | 1 | 1 | 2.015 | | | | | | | |
| 034.42 | Selenium, Total (Se), ICP, Open vessel (ppm) | 2 | 1 | 2.940 | | | | | | | |
| 034.99 | Selenium, Total (Se), Miscellaneous (ppm) | 1 | 1 | 2.090 | | | | | | | |
| 035.43 | Sodium, ICP, Microwave (%) | 25 | **25** | 0.9785 | 0.0830 | **0.9885** | 0.0334 | 0.0083 | 3.38% | 0.0353 | 4.01% |
| 035.41 | Sodium, ICP, Dry ash (%) | 19 | **18** | 0.9856 | 0.0494 | **0.9855** | 0.0560 | 0.0165 | 5.68% | 0.0235 | 4.01% |
| 035.42 | Sodium, ICP, Open vessel (%) | 18 | **18** | 1.017 | 0.0805 | **1.007** | 0.0662 | 0.0195 | 6.57% | 0.0298 | 4.00% |
| 035.99 | Sodium, Miscellaneous (%) | 5 | 4 | 1.038 | 0.1099 | 1.038 | 0.1099 | 0.0549 | 10.59% | 0.0200 | 3.98% |
| 035.31 | Sodium, AAS, Dry ash (%) | 4 | 3 | 0.9693 | 0.0183 | 0.9693 | 0.0183 | 0.0106 | 1.89% | 0.0100 | 4.02% |
| 035.52 | Sodium, ICP-MS, Open vessel (%) | 2 | 2 | 1.040 | 0.0182 | | | | | | |
| 035.53 | Sodium, ICP-MS, Microwave (%) | 2 | 2 | 1.021 | 0.1075 | | | | | | |
| 035.01 | Sodium, Ion-selective electrode (%) | 1 | 1 | 1.510 | | | | | | | |
| 035.32 | Sodium, AAS, Open vessel (%) | 1 | 1 | 0.9250 | | | | | | | |
| 036.43 | Sulfur, ICP, Microwave (%) | 18 | **18** | 0.6410 | 0.0623 | **0.6337** | 0.0524 | 0.0154 | 8.27% | 0.0241 | 4.28% |
| 036.42 | Sulfur, ICP, Open vessel (%) | 18 | **17** | 0.5969 | 0.0385 | **0.5982** | 0.0349 | 0.0106 | 5.84% | 0.0134 | 4.32% |
| 036.04 | Sulfur, LECO (%) | 3 | 3 | 0.6295 | 0.0237 | 0.6295 | 0.0237 | 0.0137 | 3.77% | 0.0145 | 4.29% |
| 036.99 | Sulfur, Miscellaneous (%) | 2 | 2 | 0.3900 | 0.3253 | | | | | | |
| 036.00 | Sulfur, Gravimetric (%) | 1 | 1 | 0.6270 | | | | | | | |
| 036.52 | Sulfur, ICP-MS, Open vessel (%) | 1 | 1 | 0.6394 | | | | | | | |
| 037.43 | Zinc, ICP, Microwave (ppm) | 27 | **27** | 419.3 | 36.51 | **417.3** | 34.60 | 8.324 | 8.29% | 15.97 | 6.45% |
| 037.42 | Zinc, ICP, Open vessel (ppm) | 21 | **21** | 402.6 | 61.08 | **412.2** | 29.69 | 8.099 | 7.20% | 15.27 | 6.46% |
| 037.41 | Zinc, ICP, Dry ash (ppm) | 14 | **14** | 395.3 | 33.88 | **397.6** | 30.97 | 10.35 | 7.79% | 8.158 | 6.50% |
| 037.31 | Zinc, AAS, Dry ash (ppm) | 5 | 5 | 431.1 | 25.85 | 431.1 | 25.85 | 11.56 | 6.00% | 26.58 | 6.42% |
| 037.99 | Zinc, Miscellaneous (ppm) | 4 | 4 | 299.9 | 186.0 | 299.9 | 186.0 | 93.01 | 62.03% | 6.365 | 6.78% |
| 037.44 | Zinc, ICP, Dry ash (ppm) | 3 | 3 | 360.8 | 58.84 | 360.8 | 58.84 | 33.97 | 16.31% | 3.513 | 6.59% |
| 037.53 | Zinc, ICP-MS, Microwave (ppm) | 2 | 2 | 417.2 | 15.12 | | | | | | |
| 037.32 | Zinc, AAS, Open vessel (ppm) | 1 | 1 | 443.0 | | | | | | | |
| 037.33 | Zinc, AAS, Microwave (ppm) | 1 | 1 | 460.2 | | | | | | | |

**Test Material Code # 202329** **(Precision Report Follows)** **Issue Date : 10/31/2023**

| Method Code | Analyte and Method | Total # Labs Submitting | # Labs in Robust Calcs | Raw Mean | Raw SD | Assigned Value Robust Mean | AAFCO ffp Robust SD | Uncertainty (U) - Robust | % RSD - Robust | Average Range (Rob R-bar) | Thompson Horwitz %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 037.52 | Zinc, ICP-MS, Open vessel (ppm) | 1 | 1 | 500.6 | | | | | | | |
| 038.43 | Molybdenum, ICP, Microwave (ppm) | 8 | **8** | 1.553 | 0.2831 | **1.580** | 0.2530 | 0.1118 | 16.01% | 0.1527 | 14.93% |
| 038.42 | Molybdenum, ICP, Open vessel (ppm) | 6 | 5 | 1.517 | 0.4940 | 1.517 | 0.4940 | 0.2761 | 32.57% | 0.0602 | 15.02% |
| 038.41 | Molybdenum, ICP, Dry ash (ppm) | 4 | 4 | 1.667 | 0.3438 | 1.667 | 0.3438 | 0.1719 | 20.62% | 0.0887 | 14.81% |
| 038.52 | Molybdenum, ICP-MS, Open vessel (ppm) | 3 | 3 | 1.228 | 0.0912 | 1.228 | 0.0912 | 0.0526 | 7.42% | 0.0350 | 15.51% |
| 038.53 | Molybdenum, ICP-MS, Microwave (ppm) | 3 | 3 | 1.579 | 0.0267 | 1.579 | 0.0267 | 0.0154 | 1.69% | 0.0673 | 14.93% |
| 038.99 | Molybdenum, Miscellaneous (ppm) | 1 | 1 | 1.615 | | | | | | | |
| 040.53 | Barium, ICP-MS, Microwave (ppm) | 1 | 1 | 13.63 | | | | | | | |
| 041.53 | Vanadium, ICP-MS, Microwave (ppm) | 1 | 1 | 2.907 | | | | | | | |
| 042.01 | Chloride, Ion-selective electrode (%) | 2 | 2 | 1.467 | 0.1508 | | | | | | |
| 042.00 | Chloride, Titrimetric (%) | 1 | 1 | 1.520 | | | | | | | |
| 042.99 | Chloride, Miscellaneous (%) | 1 | 1 | 1.565 | | | | | | | |
| 101.99 | Choline Chloride, Miscellaneous (ppm) | 1 | 1 | 2,940 | | | | | | | |
| 102.01 | Niacin, Microbiological (ppm) | 1 | 1 | 190.0 | | | | | | | |
| 102.02 | Niacin, LC (ppm) | 1 | 1 | 151.0 | | | | | | | |
| 103.01 | Pantothenic Acid, Microbiological (ppm) | 1 | 1 | 90.50 | | | | | | | |
| 104.00 | Riboflavin, Fluorometric (ppm) | 1 | 1 | 35.95 | | | | | | | |
| 104.03 | Riboflavin, LC (ppm) | 1 | 1 | 29.20 | | | | | | | |
| 105.00 | Thiamine, LC (ppm) | 1 | 1 | 1.185 | | | | | | | |
| 105.01 | Thiamine, Fluorometer (ppm) | 1 | 1 | 14.37 | | | | | | | |
| 106.02 | Vitamin A, LC (KU / kg) | 10 | **10** | 22.57 | 5.154 | **22.57** | 5.844 | 2.310 | 25.89% | 1.415 | |
| 106.00 | Vitamin A, Color (KU / kg) | 1 | 1 | 21.55 | | | | | | | |
| 106.01 | Vitamin A, UV (KU / kg) | 1 | 1 | 26.70 | | | | | | | |
| 107.00 | Vitamin B12, Microbiological (ppb) | 1 | 1 | 37.55 | | | | | | | |
| 108.02 | Vitamin D3, LC (KU / kg) | 5 | 5 | 5.297 | 0.2077 | 5.297 | 0.2077 | 0.0929 | 3.92% | 0.2365 | |
| 108.99 | Vitamin D3, Miscellaneous (KU / kg) | 1 | 1 | 5.235 | | | | | | | |
| 109.02 | Vitamin E, LC (IU / kg) | 11 | **11** | 190.4 | 16.08 | **190.2** | 17.83 | 6.718 | 9.37% | 22.78 | |
| 109.99 | Vitamin E, Miscellaneous (IU / kg) | 1 | 1 | 170.5 | | | | | | | |
| 111.00 | Vitamin C, Phosphorylated, LC (ppm) | 1 | | 4.400 | | | | | | | |
| 111.98 | Vitamin C, Ascorbic Acid, Miscellaneous (ppm) | 1 | | 1.000 | | | | | | | |
| 112.01 | Pyridoxine, LC (µg / g) | 2 | 2 | 3.160 | 0.7637 | | | | | | |
| 113.01 | Folic Acid, Micro (ppm) | 1 | 1 | 6.550 | | | | | | | |
| 113.02 | Folic acid, LC (ppm) | 1 | 1 | 4.562 | | | | | | | |
| 114.01 | Biotin, Microbiological (ppm) | 1 | 1 | 1.210 | | | | | | | |
| 114.99 | Biotin, Miscellaneous (ppm) | 1 | 1 | 0.9345 | | | | | | | |
| 115.00 | Non Protein N (NPN), Urea + Am, Urease method (%) | 1 | 1 | 0.3360 | | | | | | | |
| 115.99 | Non Protein N (NPN), Miscellaneous (%) | 1 | 1 | 2.187 | | | | | | | |
| 120.00 | Alanine, Post-col Ninhydrin Der (%) | 16 | **15** | 1.448 | 0.0355 | **1.448** | 0.0402 | 0.0130 | 2.78% | 0.0285 | 3.78% |
| 120.05 | Alanine, Pre-col AQC Der (%) | 9 | **8** | 1.428 | 0.0850 | **1.428** | 0.0964 | 0.0426 | 6.75% | 0.0239 | 3.79% |
| 120.99 | Alanine, Miscellaneous (%) | 2 | 2 | 1.485 | 0.0071 | | | | | | |

**Test Material Code # 202329** **(Precision Report Follows)** **Issue Date : 10/31/2023**

| Method Code | Analyte and Method | Total # Labs Submitting | # Labs in Robust Calcs | Raw Mean | Raw SD | Assigned Value Robust Mean | AAFCO ffp Robust SD | Uncertainty (U) - Robust | % RSD - Robust | Average Range (Rob R-bar) | Thompson Horwitz %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 120.02 | Alanine, Post-col OPA Der (%) | 1 | 1 | 1.470 | | | | | | | |
| 121.00 | Arginine, Post-col Ninhydrin Der (%) | 16 | **16** | 2.808 | 0.1858 | **2.775** | 0.1116 | 0.0349 | 4.02% | 0.0618 | 3.43% |
| 121.05 | Arginine, Pre-col AQC Der (%) | 9 | **9** | 2.613 | 0.2831 | **2.613** | 0.3210 | 0.1338 | 12.28% | 0.0800 | 3.46% |
| 121.99 | Arginine, Miscellaneous (%) | 2 | 2 | 2.760 | 0.0495 | | | | | | |
| 121.02 | Arginine, Post-col OPA Der (%) | 1 | 1 | 2.692 | | | | | | | |
| 122.00 | Aspartic, Post-col Ninhydrin Der (%) | 16 | **16** | 3.632 | 0.1349 | **3.642** | 0.1089 | 0.0340 | 2.99% | 0.0673 | 3.29% |
| 122.05 | Aspartic, Pre-col AQC Der (%) | 9 | **9** | 3.647 | 0.3409 | **3.606** | 0.2833 | 0.1180 | 7.86% | 0.0682 | 3.30% |
| 122.99 | Aspartic, Miscellaneous (%) | 2 | 2 | 3.643 | 0.0530 | | | | | | |
| 122.02 | Aspartic, Post-col OPA Der (%) | 1 | 1 | 4.005 | | | | | | | |
| 124.00 | Cysteine/Cystine, PAO Post-col Ninhydri (%) | 16 | **16** | 0.4821 | 0.0194 | **0.4818** | 0.0181 | 0.0057 | 3.76% | 0.0141 | 4.46% |
| 124.05 | Cysteine/Cystine, PAO Pre-col AQC Der (%) | 9 | **9** | 0.4531 | 0.0717 | **0.4533** | 0.0808 | 0.0337 | 17.83% | 0.0219 | 4.51% |
| 124.99 | Cysteine/Cystine, Miscellaneous (%) | 3 | 3 | 0.5331 | 0.1244 | 0.5331 | 0.1244 | 0.0879 | 23.33% | 0.0652 | 4.40% |
| 124.02 | Cysteine/Cystine, PAO Post-col OPA Der (%) | 1 | 1 | 0.4950 | | | | | | | |
| 125.00 | Glutamic, Post-col Ninhydrin Der (%) | 16 | **15** | 6.360 | 0.2806 | **6.364** | 0.2647 | 0.0854 | 4.16% | 0.0416 | 3.03% |
| 125.05 | Glutamic, Pre-col AQC Der (%) | 9 | **9** | 6.433 | 0.5418 | **6.427** | 0.6033 | 0.2514 | 9.39% | 0.1564 | 3.02% |
| 125.99 | Glutamic, Miscellaneous (%) | 2 | 2 | 6.125 | 0.3889 | | | | | | |
| 125.02 | Glutamic, Post-col OPA Der (%) | 1 | 1 | 6.516 | | | | | | | |
| 126.00 | Glycine, Post-col Ninhydrin Der (%) | 16 | **16** | 1.454 | 0.0710 | **1.443** | 0.0384 | 0.0120 | 2.66% | 0.0237 | 3.78% |
| 126.05 | Glycine, Pre-col AQC Der (%) | 9 | **8** | 1.411 | 0.1051 | **1.422** | 0.0930 | 0.0411 | 6.54% | 0.0288 | 3.79% |
| 126.99 | Glycine, Miscellaneous (%) | 2 | 2 | 1.505 | 0.0495 | | | | | | |
| 126.02 | Glycine, Post-col OPA Der (%) | 1 | 1 | 1.459 | | | | | | | |
| 127.00 | Histidine, Post-col Ninhydrin Der (%) | 16 | **16** | 0.9057 | 0.0751 | **0.8910** | 0.0283 | 0.0089 | 3.18% | 0.0250 | 4.07% |
| 127.05 | Histidine, Pre-col AQC Der (%) | 9 | **9** | 0.8852 | 0.1984 | **0.8705** | 0.1481 | 0.0617 | 17.02% | 0.0487 | 4.08% |
| 127.99 | Histidine, Miscellaneous (%) | 2 | 2 | 0.8375 | 0.0884 | | | | | | |
| 127.02 | Histidine, Post-col OPA Der (%) | 1 | 1 | 0.8575 | | | | | | | |
| 128.00 | Isoleucine, Post-col Ninhydrin Der (%) | 16 | **15** | 1.375 | 0.0712 | **1.369** | 0.0669 | 0.0216 | 4.89% | 0.0205 | 3.81% |
| 128.05 | Isoleucine, Pre-col AQC Der (%) | 9 | **9** | 1.383 | 0.2528 | **1.443** | 0.0935 | 0.0389 | 6.48% | 0.0516 | 3.78% |
| 128.99 | Isoleucine, Miscellaneous (%) | 2 | 2 | 1.410 | 0.0495 | | | | | | |
| 128.02 | Isoleucine, Post-col OPA Der (%) | 1 | 1 | 1.357 | | | | | | | |
| 129.00 | Leucine, Post-col Ninhydrin Der (%) | 16 | **15** | 2.420 | 0.0758 | **2.422** | 0.0737 | 0.0238 | 3.04% | 0.0208 | 3.50% |
| 129.05 | Leucine, Pre-col AQC Der (%) | 9 | **9** | 2.347 | 0.2380 | **2.377** | 0.1915 | 0.0798 | 8.06% | 0.0780 | 3.51% |
| 129.99 | Leucine, Miscellaneous (%) | 2 | 2 | 2.475 | 0.0778 | | | | | | |
| 129.02 | Leucine, Post-col OPA Der (%) | 1 | 1 | 2.385 | | | | | | | |
| 130.00 | L-Lysine, Post-col Ninhydrin Der (%) | 16 | **16** | 1.912 | 0.0963 | **1.896** | 0.0588 | 0.0184 | 3.10% | 0.0398 | 3.63% |
| 130.05 | L-Lysine, Pre-col AQC Der (%) | 9 | **9** | 1.859 | 0.2217 | **1.848** | 0.1965 | 0.0819 | 10.63% | 0.0577 | 3.65% |
| 130.99 | L-Lysine, Miscellaneous (%) | 3 | 3 | 1.939 | 0.2524 | 1.939 | 0.2524 | 0.1457 | 13.01% | 0.2081 | 3.62% |
| 130.02 | L-Lysine, Post-col OPA Der (%) | 1 | 1 | 1.980 | | | | | | | |
| 131.00 | Methionine, PAO Post-col Ninhydrin Der (%) | 16 | **16** | 0.4352 | 0.0301 | **0.4367** | 0.0277 | 0.0087 | 6.34% | 0.0134 | 4.53% |
| 131.05 | Methionine, PAO Pre-col AQC Der (%) | 9 | **8** | 0.4018 | 0.0487 | **0.4073** | 0.0417 | 0.0184 | 10.24% | 0.0245 | 4.58% |
| 131.99 | Methionine, Miscellaneous (%) | 3 | 3 | 0.4900 | 0.0522 | 0.4900 | 0.0522 | 0.0302 | 10.66% | 0.0636 | 4.45% |

| Method Code | Analyte and Method | Total # Labs Submitting | # Labs in Robust Calcs | Raw Mean | Raw SD | Assigned Value Robust Mean | AAFCO ffp Robust SD | Uncertainty (U) - Robust | % RSD - Robust | Average Range (Rob R-bar) | Thompson Horwitz %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 131.02 | Methionine, PAO Post-col OPA Der (%) | 1 | 1 | 0.4155 | | | | | | | |
| 132.00 | Phenylalanine, Post-col Ninhydrin Der (%) | 16 | **16** | 1.747 | 0.0515 | **1.744** | 0.0492 | 0.0154 | 2.82% | 0.0339 | 3.68% |
| 132.05 | Phenylalanine, Pre-col AQC Der (%) | 9 | **9** | 1.717 | 0.2102 | **1.717** | 0.2383 | 0.0993 | 13.88% | 0.0702 | 3.69% |
| 132.99 | Phenylalanine, Miscellaneous (%) | 2 | 2 | 1.778 | 0.0389 | | | | | | |
| 132.02 | Phenylalanine, Post-col OPA Der (%) | 1 | 1 | 1.710 | | | | | | | |
| 133.00 | Proline, Post-col Ninhydrin Der (%) | 16 | **15** | 1.686 | 0.2781 | **1.619** | 0.0787 | 0.0254 | 4.86% | 0.0298 | 3.72% |
| 133.05 | Proline, Pre-col AQC Der (%) | 9 | **9** | 1.594 | 0.0746 | **1.594** | 0.0846 | 0.0353 | 5.31% | 0.0569 | 3.73% |
| 133.99 | Proline, Miscellaneous (%) | 2 | 2 | 1.790 | 0.2475 | | | | | | |
| 134.00 | Serine, Post-col Ninhydrin Der (%) | 16 | **16** | 1.640 | 0.0947 | **1.654** | 0.0701 | 0.0219 | 4.24% | 0.0313 | 3.71% |
| 134.05 | Serine, Pre-col AQC Der (%) | 9 | **9** | 1.623 | 0.1462 | **1.622** | 0.1641 | 0.0684 | 10.12% | 0.0644 | 3.72% |
| 134.99 | Serine, Miscellaneous (%) | 2 | 2 | 1.693 | 0.0318 | | | | | | |
| 134.02 | Serine, Post-col OPA Der (%) | 1 | 1 | 1.597 | | | | | | | |
| 135.00 | Threonine, Post-col Ninhydrin Der (%) | 16 | **16** | 1.262 | 0.0459 | **1.267** | 0.0231 | 0.0072 | 1.82% | 0.0208 | 3.86% |
| 135.05 | Threonine, Pre-col AQC Der (%) | 9 | **8** | 1.270 | 0.1336 | **1.270** | 0.1516 | 0.0670 | 11.93% | 0.0609 | 3.86% |
| 135.99 | Threonine, Miscellaneous (%) | 3 | 3 | 1.301 | 0.0734 | 1.301 | 0.0734 | 0.0519 | 5.65% | 0.1246 | 3.84% |
| 135.02 | Threonine, Post-col OPA Der (%) | 1 | 1 | 1.195 | | | | | | | |
| 136.00 | Tryptophan, Alka-Hydrol Post-col Ninhyd (%) | 6 | **6** | 0.4516 | 0.0522 | **0.4516** | 0.0592 | 0.0302 | 13.12% | 0.0248 | 4.51% |
| 136.03 | Tryptophan, Alka-Hydrol + IS RP LC Fl (%) | 6 | **6** | 0.4728 | 0.0322 | **0.4728** | 0.0365 | 0.0186 | 7.72% | 0.0085 | 4.48% |
| 136.05 | Tryptophan, Pre-col AQC Der (%) | 4 | 4 | 0.4364 | 0.0808 | 0.4364 | 0.0808 | 0.0404 | 18.53% | 0.0219 | 4.53% |
| 136.01 | Tryptophan, Alka-Hydrol Rev Phase LC UV (%) | 2 | 2 | 0.4693 | 0.0004 | | | | | | |
| 136.99 | Tryptophan, Miscellaneous (%) | 2 | 2 | 0.4095 | 0.0361 | | | | | | |
| 136.02 | Tryptophan, Alka-Hydrol Post-col OPA De (%) | 1 | 1 | 0.4550 | | | | | | | |
| 137.00 | Tyrosine, Post-col Ninhydrin Der (%) | 13 | **13** | 1.095 | 0.1396 | **1.112** | 0.0885 | 0.0307 | 7.96% | 0.0144 | 3.94% |
| 137.05 | Tyrosine, Pre-col AQC Der (%) | 9 | **9** | 1.122 | 0.1289 | **1.115** | 0.1300 | 0.0542 | 11.65% | 0.0568 | 3.93% |
| 137.99 | Tyrosine, Miscellaneous (%) | 2 | 2 | 1.083 | 0.0460 | | | | | | |
| 137.02 | Tyrosine, Post-col OPA Der (%) | 1 | 1 | 1.027 | | | | | | | |
| 138.00 | Valine, Post-col Ninhydrin Der (%) | 16 | **15** | 1.543 | 0.0839 | **1.542** | 0.0795 | 0.0257 | 5.16% | 0.0204 | 3.75% |
| 138.05 | Valine, Pre-col AQC Der (%) | 9 | **9** | 1.530 | 0.2566 | **1.599** | 0.0775 | 0.0323 | 4.85% | 0.0639 | 3.73% |
| 138.99 | Valine, Miscellaneous (%) | 2 | 2 | 1.600 | 0.0919 | | | | | | |
| 138.02 | Valine, Post-col OPA Der (%) | 1 | 1 | 1.646 | | | | | | | |
| 139.00 | Taurine, Post-col Ninhydrin Der (%) | 2 | 2 | 0.0625 | 0.0672 | | | | | | |
| 139.05 | Taurine, Pre-col AQC Der (%) | 2 | 2 | 0.0044 | 0.0023 | | | | | | |
| 139.02 | Taurine, Post-col OPA Der (%) | 1 | | 0.0100 | | | | | | | |
| 139.99 | Taurine, Miscellaneous (%) | 2 | | 0.0100 | | | | | | | |
| 160.10 | Fructose, HPAEC PAD (%) | 1 | 1 | 0.1850 | | | | | | | |
| 160.99 | Fructose, Miscellaneous (%) | 1 | 1 | 0.4500 | | | | | | | |
| 161.10 | Galactose, HPAEC PAD (%) | 1 | | 0.0000 | | | | | | | |
| 162.10 | Glucose, HPAEC PAD (%) | 1 | 1 | 0.0750 | | | | | | | |
| 162.99 | Glucose, Miscellaneous (%) | 2 | 1 | 8.800 | | | | | | | |
| 163.10 | Lactose, HPAEC PAD (%) | 1 | | 0.0000 | | | | | | | |

| Method Code | Analyte and Method | Total # Labs Submitting | # Labs in Robust Calcs | Raw Mean | Raw SD | Assigned Value Robust Mean | AAFCO ffp Robust SD | Uncertainty (U) - Robust | % RSD - Robust | Average Range (Rob R-bar) | Thompson Horwitz %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 163.99 | Lactose, Miscellaneous (%) | 1 | | 0.1500 | | | | | | | |
| 164.99 | Maltose, Miscellaneous (%) | 2 | 1 | 0.1855 | | | | | | | |
| 164.10 | Maltose, HPAEC PAD (%) | 1 | | 0.0000 | | | | | | | |
| 165.99 | Sucrose, Miscellaneous (%) | 2 | 2 | 4.888 | 0.3500 | | | | | | |
| 165.10 | Sucrose, HPAEC PAD (%) | 1 | 1 | 4.565 | | | | | | | |
| 166.10 | Raffinose, HPAEC PAD (%) | 1 | 1 | 1.640 | | | | | | | |
| 166.99 | Raffinose, Miscellaneous (%) | 1 | 1 | 1.410 | | | | | | | |
| 167.10 | Stachyose, HPAEC PAD (%) | 1 | 1 | 2.640 | | | | | | | |
| 167.99 | Stachyose, Miscellaneous (%) | 1 | 1 | 2.790 | | | | | | | |
| 351.03 | Chlortetracycline, LC (UV or FL) (ppm) | 9 | **8** | 107.8 | 20.11 | **107.8** | 22.81 | 10.08 | 21.16% | 3.617 | 7.91% |
| 351.05 | Chlortetracycline, LC-MS/MS (ppm) | 4 | 4 | 141.9 | 85.09 | 141.9 | 85.09 | 42.55 | 59.98% | 11.43 | 7.59% |
| 351.00 | Chlortetracycline, Plate (ppm) | 3 | 3 | 96.43 | 5.205 | 96.43 | 5.205 | 3.005 | 5.40% | 5.982 | 8.04% |
| 354.01 | Decoquinate, LC (UV or FL) (ppm) | 1 | | 0.1000 | | | | | | | |
| 361.03 | Lasalocid Sodium, LC (UV or FL) (ppm) | 11 | **10** | 183.8 | 20.54 | **185.4** | 13.44 | 5.314 | 7.25% | 3.905 | 7.29% |
| 361.02 | Lasalocid Sodium, LC (ppm) | 7 | **7** | 198.4 | 14.57 | **201.1** | 9.800 | 4.630 | 4.87% | 6.941 | 7.20% |
| 361.05 | Lasalocid Sodium, LC-MS/MS (ppm) | 3 | 3 | 237.1 | 58.27 | 237.1 | 58.27 | 33.64 | 24.58% | 11.00 | 7.02% |
| 365.03 | Monensin, LC-PCD (ppm) | 1 | 1 | 185.0 | | | | | | | |
| 365.05 | Monensin, LC-MS/MS (ppm) | 1 | 1 | 204.9 | | | | | | | |
| 365.02 | Monensin, LC (ppm) | 1 | | 0.3000 | | | | | | | |
| 367.99 | Nicarbazin, Miscellaneous (ppm) | 1 | | 0.1000 | | | | | | | |
| 386.99 | Tiamulin, Miscellaneous (ppm) | 1 | | 1.000 | | | | | | | |
| 388.03 | Tylosin, LC (ppm) | 1 | | 0.2000 | | | | | | | |
| 392.99 | Fenbendazole, Miscellaneous (ppm) | 1 | | 1.000 | | | | | | | |
| 400.01 | Water Activity, Aqualab chilled mirror (Units) | 11 | **11** | 0.5631 | 0.0074 | **0.5631** | 0.0083 | 0.0031 | 1.48% | 0.0019 | |
| 413.01 | Starch, Resistant, Enzymatic-Colorimetric (%) | 1 | 1 | 2.770 | | | | | | | |
| 516.52 | Arsenic, Total (As), ICP-MS, Open vessel (ppm) | 3 | 2 | 0.1251 | 0.0070 | 0.1251 | 0.0070 | | | | 21.87% |
| 516.53 | Arsenic, Total (As), ICP-MS, Microwave (ppm) | 2 | 2 | 0.1397 | 0.0152 | | | | | | |
| 516.00 | Arsenic, Total (As), AA, Hydride (ppm) | 1 | 1 | 0.1500 | | | | | | | |
| 516.43 | Arsenic, Total (As), ICP, Microwave (ppm) | 1 | | 20.00 | | | | | | | |
| 518.53 | Cadmium, ICP-MS, Microwave (ppm) | 3 | 3 | 0.1707 | 0.0093 | 0.1707 | 0.0093 | 0.0054 | 5.47% | 0.0305 | 20.87% |
| 518.43 | Cadmium, ICP, Microwave (ppm) | 3 | 2 | 0.1624 | 0.0210 | 0.1624 | 0.0210 | | | 0.0030 | 21.03% |
| 518.52 | Cadmium, ICP-MS, Open vessel (ppm) | 2 | 2 | 0.1520 | 0.0099 | | | | | | |
| 518.41 | Cadmium, ICP, Dry ash (ppm) | 1 | 1 | 0.1438 | | | | | | | |
| 518.99 | Cadmium, Miscellaneous (ppm) | 1 | 1 | 0.1582 | | | | | | | |
| 520.43 | Chromium, Total (Cr), ICP, Microwave (ppm) | 6 | 5 | 12.47 | 1.561 | 12.47 | 1.561 | 0.9503 | 12.51% | 0.1739 | 10.94% |
| 520.53 | Chromium, Total (Cr), ICP-MS, Microwave (ppm) | 3 | 3 | 12.62 | 0.2507 | 12.62 | 0.2507 | 0.1447 | 1.99% | 1.482 | 10.92% |
| 520.42 | Chromium, Total (Cr), ICP, Open vessel (ppm) | 2 | 2 | 13.51 | 0.8415 | | | | | | |
| 520.41 | Chromium, Total (Cr), ICP, Dry ash (ppm) | 1 | 1 | 9.794 | | | | | | | |
| 520.51 | Chromium, Total (Cr), ICP-MS, Dry ash (ppm) | 1 | 1 | 10.53 | | | | | | | |
| 520.52 | Chromium, Total (Cr), ICP-MS, Open vessel (ppm) | 1 | 1 | 9.405 | | | | | | | |

**Test Material Code # 202329** **(Precision Report Follows)** **Issue Date : 10/31/2023**

| Method Code | Analyte and Method | Total # Labs Submitting | # Labs in Robust Calcs | Raw Mean | Raw SD | Assigned Value Robust Mean | AAFCO ffp Robust SD | Uncertainty (U) - Robust | % RSD - Robust | Average Range (Rob R-bar) | Thompson Horwitz %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 526.53 | Lead, ICP-MS, Microwave (ppm) | 3 | 3 | 0.3157 | 0.0162 | 0.3157 | 0.0162 | 0.0114 | 5.13% | 0.0290 | 19.03% |
| 526.52 | Lead, ICP-MS, Open vessel (ppm) | 3 | 2 | 0.2945 | 0.0276 | 0.2945 | 0.0276 | | | 0.0240 | 19.23% |
| 526.41 | Lead, ICP, Dry ash (ppm) | 1 | 1 | 0.3021 | | | | | | | |
| 526.43 | Lead, ICP, Microwave (ppm) | 2 | 1 | 0.3188 | | | | | | | |
| 529.99 | Mercury, Miscellaneous (ppb) | 4 | 1 | | | | | | | | |
| 539.43 | Nickel, ICP, Microwave (ppm) | 4 | 4 | 6.253 | 0.8367 | 6.253 | 0.8367 | 0.4184 | 13.38% | 0.5925 | 12.14% |
| 539.53 | Nickel, ICP-MS, Microwave (ppm) | 2 | 2 | 5.739 | 0.0656 | | | | | | |
| 539.41 | Nickel, ICP, Dry ash (ppm) | 1 | 1 | 5.027 | | | | | | | |
| 539.51 | Nickel, ICP-MS, Dry ash (ppm) | 1 | 1 | 3.975 | | | | | | | |
| 539.52 | Nickel, ICP-MS, Open vessel (ppm) | 1 | 1 | 4.370 | | | | | | | |
| 702.00 | Butyric Acid (4:0), Miscellaneous GC (%) | 1 | | 0.0200 | | | | | | | |
| 704.00 | Caproic Acid (6:0) , Miscellaneous GC (%) | 1 | | 0.0200 | | | | | | | |
| 706.99 | Caprylic acid (8:0), Miscellaneous (% (w/w)) | 2 | | 0.0200 | | | | | | | |
| 708.99 | Capric acid (10:0), Miscellaneous (% (w/w)) | 2 | | 0.0200 | | | | | | | |
| 710.99 | Lauric Acid (12:0), Miscellaneous (% (w/w)) | 4 | | | | | | | | | |
| 714.99 | Myristic Acid (14:0 ), Miscellaneous (% (w/w)) | 3 | 2 | 0.2873 | 0.3856 | 0.2873 | 0.3856 | | | 0.0101 | 4.83% |
| 716.99 | Palmitic Acid (16:0), Miscellaneous (% (w/w)) | 3 | 3 | 7.141 | 11.34 | 7.141 | 11.34 | 8.021 | 158.85% | 0.0535 | 2.98% |
| 718.99 | Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w)) | 4 | 3 | 0.2077 | 0.3354 | 0.2077 | 0.3354 | 0.2372 | 161.50% | 0.0051 | 5.07% |
| 720.99 | Margaric acid (17:0), Miscellaneous (% (w/w)) | 1 | | 0.0200 | | | | | | | |
| 722.99 | Stearic Acid (18:0), Miscellaneous (% (w/w)) | 3 | 3 | 2.064 | 3.313 | 2.064 | 3.313 | 2.343 | 160.50% | 0.0353 | 3.59% |
| 724.99 | Oleic Acid (9c-18:1), Miscellaneous (% (w/w)) | 3 | 3 | 7.206 | 11.64 | 7.206 | 11.64 | 8.230 | 161.53% | 0.0594 | 2.97% |
| 726.99 | Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w)) | 4 | 3 | 1.182 | 0.1095 | 1.182 | 0.1095 | 0.0774 | 9.26% | 0.0082 | 3.90% |
| 728.99 | alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w)) | 4 | 3 | 0.0956 | 0.0079 | 0.0956 | 0.0079 | 0.0046 | 8.25% | 0.0012 | 5.69% |
| 730.99 | Arachidic Acid (20:0), Miscellaneous (% (w/w)) | 3 | 2 | 0.1618 | 0.2167 | 0.1618 | 0.2167 | | | 0.0151 | 5.26% |
| 732.99 | Gondoic Acid (11c-20:1), Miscellaneous (% (w/w)) | 2 | 1 | 0.0067 | | | | | | | |
| 736.99 | Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w)) | 2 | | 0.0100 | | | | | | | |
| 740.99 | Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w | 4 | | | | | | | | | |
| 742.99 | Behenic Acid (22:0), Miscellaneous (% (w/w)) | 3 | 2 | 0.1693 | 0.2272 | 0.1693 | 0.2272 | | | 0.0102 | 5.23% |
| 744.99 | Erucic Acid (13c-22:1), Miscellaneous (% (w/w)) | 3 | | | | | | | | | |
| 746.99 | Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% | 4 | | | | | | | | | |
| 748.99 | Lignoceric Acid (24:0), Miscellaneous (% (w/w)) | 3 | 2 | 0.1361 | 0.1823 | 0.1361 | 0.1823 | | | 0.0152 | 5.40% |
| 750.99 | Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% | 4 | | | | | | | | | |
| 752.99 | Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w)) | 2 | | 0.0050 | | | | | | | |
| 754.99 | Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w)) | 2 | 2 | 0.0958 | 0.0081 | | | | | | |
| 756.99 | Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w)) | 2 | 2 | 1.159 | 0.1322 | | | | | | |
| 758.99 | Total Saturated Fatty Acids, Miscellaneous (% (w/w)) | 2 | 2 | 14.37 | 19.13 | | | | | | |
| 762.99 | Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w)) | 1 | 1 | 21.76 | | | | | | | |
| 764.99 | Total cis Monounsaturated Fatty Acids, Miscellaneous (% (w/w)) | 1 | 1 | 0.5745 | | | | | | | |
| 766.99 | Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w)) | 1 | 1 | 47.70 | | | | | | | |
| 768.99 | Total cis Polyunsaturated Fatty Acids, Miscellaneous (% (w/w)) | 1 | 1 | 1.360 | | | | | | | |

**Test Material Code # 202329** **(Precision Report Follows)** **Issue Date : 10/31/2023**

| Method Code | Analyte and Method | Total # Labs Submitting | # Labs in Robust Calcs | Raw Mean | Raw SD | Assigned Value Robust Mean | AAFCO ffp Robust SD | Uncertainty (U) - Robust | % RSD - Robust | Average Range (Rob R-bar) | Thompson Horwitz %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 770.99 | Total Fat (equivalent to NLEA), Miscellaneous (% (w/w)) | 1 | 1 | 2.921 | | | | | | | |
| 772.99 | Total Fatty Acids, Miscellaneous (% (w/w)) | 2 | 2 | 2.695 | 0.1371 | | | | | | |

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.

Association of American Feed Control Officials

ANAB ACCREDITED ISO/IEC 17043 PROFICIENCY TESTING PROVIDER

AAFCO PTP Animal Feed Scheme

**Animal Feed Scheme**
**Beef Feed, Medicated**
**Test Material Code # 202329**

# Method Precision Report

**# Methods Reported: 119**
**# Labs Reporting: 167**
**Issue Date : 10/31/2023**

| 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 (%) | 47 | 43 | 8.851 | 0.3481 | 0.2879 | 0.1279 | 0.3150 | 3.24% | 1.44% | 3.55% | 2.463 |
| 001.99 | Loss on Drying, Miscellaneous (%) | 16 | 14 | 8.763 | 0.7176 | 0.7359 | 0.0700 | 0.7392 | 8.42% | 0.80% | 8.46% | 10.56 |
| 002.01 | Protein, Crude, Auto Kjel-Foss (%) | 15 | 13 | 34.48 | 1.627 | 0.1967 | 0.1749 | 0.2632 | 0.58% | 0.51% | 0.77% | 1.505 |
| 002.05 | Protein, Crude, Copper, Boric Acid (%) | 21 | 19 | 34.94 | 1.795 | 1.135 | 0.1177 | 1.142 | 3.28% | 0.34% | 3.30% | 9.700 |
| 002.06 | Protein, Crude, Combustion Nitrogen Analyzer (%) | 109 | 103 | 34.68 | 0.5561 | 0.2917 | 0.2100 | 0.3594 | 0.84% | 0.60% | 1.03% | 1.711 |
| 002.11 | Protein, Crude, NIR (%) | 6 | 5 | 32.54 | 10.17 | 2.939 | 0.1849 | 2.945 | 8.04% | 0.51% | 8.06% | 15.93 |
| 003.00 | Fat, Crude, Diethyl Ether Ext., Direct (%) | 12 | 12 | 2.285 | 0.1815 | 0.1624 | 0.1147 | 0.1988 | 7.11% | 5.02% | 8.70% | 1.733 |
| 003.06 | Fat, Crude, Pet Ether (%) | 11 | 10 | 2.216 | 0.1989 | 0.1974 | 0.0413 | 0.2017 | 8.98% | 1.88% | 9.18% | 4.879 |
| 003.09 | Fat, Crude, Randall, Diethyl Ether Ext (%) | 8 | 7 | 2.348 | 0.2656 | 0.0785 | 0.1190 | 0.1426 | 3.47% | 5.26% | 6.30% | 1.198 |
| 003.10 | Fat, Crude, Randall, Pet Ether (%) | 26 | 24 | 2.036 | 0.3614 | 0.1891 | 0.0520 | 0.1961 | 9.03% | 2.48% | 9.36% | 3.768 |
| 003.14 | Fat, Crude, Ankom (%) | 53 | 47 | 2.294 | 0.2879 | 0.2717 | 0.0651 | 0.2794 | 11.94% | 2.86% | 12.28% | 4.293 |
| 004.00 | Fiber, Crude, Asbestos Free (%) | 10 | 9 | 6.589 | 0.7959 | 0.5719 | 0.1898 | 0.6026 | 8.92% | 2.96% | 9.40% | 3.174 |
| 004.06 | Fiber, Crude, Fibertec (%) | 16 | 15 | 5.806 | 0.4932 | 0.5036 | 0.1165 | 0.5169 | 8.67% | 2.01% | 8.90% | 4.436 |
| 004.07 | Fiber, Crude, ANKOM (%) | 76 | 72 | 6.512 | 1.020 | 0.8454 | 0.2113 | 0.8714 | 13.00% | 3.25% | 13.40% | 4.124 |
| 005.00 | Ash, 2h @ 600°C (%) | 86 | 83 | 16.32 | 0.4325 | 0.4261 | 0.1382 | 0.4479 | 2.61% | 0.85% | 2.75% | 3.241 |
| 005.05 | Ash, 3h @ 550°C (%) | 28 | 24 | 16.86 | 0.4874 | 0.3464 | 0.1556 | 0.3797 | 2.06% | 0.92% | 2.25% | 2.441 |
| 005.99 | Ash, Miscellaneous (%) | 9 | 8 | 16.93 | 0.5969 | 0.3661 | 0.1472 | 0.3946 | 2.14% | 0.86% | 2.31% | 2.681 |
| 008.02 | Fiber, Acid Detergent, Crucible (%) | 12 | 12 | 8.299 | 0.4958 | 0.4790 | 0.1810 | 0.5121 | 5.77% | 2.18% | 6.17% | 2.829 |
| 008.08 | Fiber, Acid Detergent, Filter Bag - ANKOM (%) | 47 | 42 | 8.391 | 0.8395 | 0.5911 | 0.2409 | 0.6383 | 7.04% | 2.87% | 7.60% | 2.649 |
| 009.07 | Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%) | 12 | 11 | 15.13 | 6.846 | 1.236 | 0.6187 | 1.382 | 9.37% | 4.69% | 10.48% | 2.234 |
| 009.09 | Fiber, Neutral Detergent, Filter Bag - ANKOM (%) | 43 | 36 | 13.61 | 1.473 | 1.031 | 0.1738 | 1.045 | 7.75% | 1.31% | 7.85% | 6.015 |
| 010.99 | Moisture, Miscellaneous (%) | 16 | 15 | 8.774 | 0.5269 | 0.5386 | 0.1020 | 0.5482 | 6.13% | 1.16% | 6.24% | 5.373 |
| 011.01 | Loss on Drying, HT, 135°C 2hr (%) | 56 | 51 | 9.830 | 0.6574 | 0.4047 | 0.0789 | 0.4124 | 4.13% | 0.80% | 4.21% | 5.227 |
| 012.00 | Starch, Polarimetric (Ewers) (%) | 10 | 10 | 4.670 | 1.349 | 1.344 | 0.1565 | 1.353 | 28.78% | 3.35% | 28.97% | 8.645 |
| 012.01 | Starch, Enzymatic-Colorimetric Method (Megazyme) (%) | 11 | 9 | 2.741 | 1.150 | 0.7687 | 0.1457 | 0.7824 | 25.01% | 4.74% | 25.46% | 5.370 |
| 013.00 | Fat, Pretreat, Acid hydrolysis (%) | 15 | 15 | 3.189 | 0.5611 | 0.5511 | 0.1494 | 0.5710 | 17.28% | 4.68% | 17.91% | 3.822 |
| 013.02 | Fat, Pretreat, Mojonnier, Bak Ext, Acid hydrolysis (%) | 14 | 13 | 3.645 | 0.3429 | 0.2518 | 0.2028 | 0.3234 | 6.81% | 5.48% | 8.74% | 1.594 |
| 013.10 | Fat, Pretreat, Soxtec-Acid Hydrolysis (%) | 6 | 6 | 2.944 | 0.2543 | 0.2482 | 0.0783 | 0.2602 | 8.43% | 2.66% | 8.84% | 3.325 |
| 013.13 | Fat, Pretreat, Ankom- Acid Hydrolysis (%) | 8 | 7 | 2.972 | 0.4999 | 0.4860 | 0.1800 | 0.5183 | 16.72% | 6.19% | 17.83% | 2.880 |
| 015.43 | Aluminum, ICP, Microwave (ppm) | 7 | 7 | 382.3 | 48.35 | 47.98 | 8.445 | 48.72 | 12.55% | 2.21% | 12.74% | 5.769 |
| 017.43 | Boron, ICP, Microwave (ppm) | 6 | 6 | 19.40 | 9.287 | 9.279 | 0.5389 | 9.295 | 47.82% | 2.78% | 47.90% | 17.25 |
| 019.00 | Calcium, Ox-Mn04 Vol. (%) | 6 | 6 | 3.385 | 0.1011 | 0.0979 | 0.0355 | 0.1042 | 2.89% | 1.05% | 3.08% | 2.935 |
| 019.08 | Calcium, EDTA (%) | 9 | 9 | 3.382 | 0.0958 | 0.0953 | 0.0146 | 0.0964 | 2.82% | 0.43% | 2.85% | 6.620 |
| 019.31 | Calcium, AAS, Dry ash (%) | 12 | 10 | 3.173 | 0.4405 | 0.1319 | 0.0399 | 0.1378 | 4.00% | 1.21% | 4.18% | 3.453 |
| 019.41 | Calcium, ICP, Dry ash (%) | 21 | 20 | 3.256 | 0.1504 | 0.1446 | 0.0586 | 0.1560 | 4.44% | 1.80% | 4.79% | 2.662 |
| 019.42 | Calcium, ICP, Open vessel (%) | 20 | 18 | 3.408 | 0.3209 | 0.3274 | 0.0602 | 0.3329 | 9.60% | 1.77% | 9.76% | 5.527 |

**Test Material Code # 202329** **Issue Date : 10/31/2023**

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 019.43 | Calcium, ICP, Microwave (%) | 27 | 25 | 3.367 | 0.1956 | 0.1348 | 0.0926 | 0.1635 | 3.97% | 2.73% | 4.82% | 1.766 |
| 019.99 | Calcium, Miscellaneous (%) | 6 | 5 | 2.844 | 1.018 | 0.1042 | 0.1120 | 0.1530 | 3.20% | 3.44% | 4.70% | 1.366 |
| 021.41 | Cobalt, ICP, Dry ash (ppm) | 6 | 5 | 3.258 | 0.9222 | 0.3963 | 0.0953 | 0.4076 | 10.99% | 2.64% | 11.31% | 4.275 |
| 021.43 | Cobalt, ICP, Microwave (ppm) | 10 | 9 | 3.696 | 0.6107 | 0.3983 | 0.0873 | 0.4078 | 10.35% | 2.27% | 10.60% | 4.672 |
| 022.41 | Copper, ICP, Dry ash (ppm) | 15 | 14 | 62.09 | 5.385 | 5.185 | 1.200 | 5.322 | 8.41% | 1.95% | 8.64% | 4.433 |
| 022.42 | Copper, ICP, Open vessel (ppm) | 22 | 19 | 65.70 | 4.307 | 2.578 | 2.029 | 3.281 | 3.88% | 3.06% | 4.94% | 1.617 |
| 022.43 | Copper, ICP, Microwave (ppm) | 27 | 26 | 65.84 | 5.589 | 5.435 | 1.845 | 5.739 | 8.25% | 2.80% | 8.72% | 3.110 |
| 025.31 | Iron, AAS, Dry ash (ppm) | 7 | 7 | 631.9 | 40.30 | 38.40 | 17.27 | 42.10 | 6.08% | 2.73% | 6.66% | 2.439 |
| 025.41 | Iron, ICP, Dry ash (ppm) | 17 | 15 | 592.5 | 46.89 | 33.60 | 9.277 | 34.86 | 5.59% | 1.54% | 5.80% | 3.757 |
| 025.42 | Iron, ICP, Open vessel (ppm) | 20 | 19 | 503.7 | 145.2 | 120.9 | 21.64 | 122.8 | 23.14% | 4.14% | 23.51% | 5.675 |
| 025.43 | Iron, ICP, Microwave (ppm) | 24 | 22 | 614.9 | 45.61 | 43.67 | 17.73 | 47.13 | 7.13% | 2.89% | 7.69% | 2.659 |
| 027.41 | Magnesium, ICP, Dry ash (%) | 16 | 16 | 0.4722 | 0.0247 | 0.0241 | 0.0077 | 0.0253 | 5.11% | 1.63% | 5.37% | 3.294 |
| 027.42 | Magnesium, ICP, Open vessel (%) | 21 | 21 | 0.4842 | 0.0321 | 0.0308 | 0.0129 | 0.0334 | 6.36% | 2.67% | 6.89% | 2.585 |
| 027.43 | Magnesium, ICP, Microwave (%) | 26 | 25 | 0.4848 | 0.0240 | 0.0222 | 0.0125 | 0.0255 | 4.57% | 2.58% | 5.25% | 2.037 |
| 028.41 | Manganese, ICP, Dry ash (ppm) | 14 | 12 | 304.8 | 22.86 | 15.10 | 4.990 | 15.90 | 4.87% | 1.61% | 5.13% | 3.187 |
| 028.42 | Manganese, ICP, Open vessel (ppm) | 22 | 21 | 316.7 | 17.63 | 12.53 | 9.845 | 15.94 | 3.93% | 3.09% | 5.00% | 1.619 |
| 028.43 | Manganese, ICP, Microwave (ppm) | 25 | 24 | 312.1 | 23.19 | 22.20 | 9.491 | 24.14 | 7.11% | 3.04% | 7.74% | 2.544 |
| 031.01 | Phosphorus, Photometric (%) | 26 | 24 | 1.446 | 0.0659 | 0.0466 | 0.0148 | 0.0489 | 3.20% | 1.02% | 3.36% | 3.305 |
| 031.41 | Phosphorus, ICP, Dry ash (%) | 20 | 18 | 1.459 | 0.0797 | 0.0802 | 0.0201 | 0.0827 | 5.49% | 1.37% | 5.66% | 4.122 |
| 031.42 | Phosphorus, ICP, Open vessel (%) | 21 | 19 | 1.508 | 0.1024 | 0.0849 | 0.0373 | 0.0927 | 5.67% | 2.50% | 6.20% | 2.484 |
| 031.43 | Phosphorus, ICP, Microwave (%) | 29 | 26 | 1.531 | 0.1199 | 0.0895 | 0.0238 | 0.0926 | 5.85% | 1.55% | 6.05% | 3.896 |
| 032.41 | Potassium, ICP, Dry ash (%) | 17 | 16 | 1.861 | 0.1054 | 0.1042 | 0.0230 | 0.1067 | 5.60% | 1.24% | 5.73% | 4.636 |
| 032.42 | Potassium, ICP, Open vessel (%) | 20 | 19 | 1.981 | 0.1704 | 0.1338 | 0.0475 | 0.1420 | 6.84% | 2.43% | 7.25% | 2.987 |
| 032.43 | Potassium, ICP, Microwave (%) | 28 | 26 | 1.878 | 0.0868 | 0.0722 | 0.0433 | 0.0842 | 3.83% | 2.30% | 4.47% | 1.944 |
| 032.99 | Potassium, Miscellaneous (%) | 6 | 5 | 1.606 | 0.5386 | 0.1437 | 0.0407 | 0.1493 | 7.90% | 2.24% | 8.21% | 3.672 |
| 033.00 | Salt as chloride, Sol Cl (%) | 16 | 14 | 2.290 | 0.6125 | 0.2674 | 0.0286 | 0.2690 | 10.95% | 1.17% | 11.01% | 9.409 |
| 033.01 | Salt as chloride, Poten Cl (%) | 27 | 24 | 2.535 | 0.0449 | 0.0398 | 0.0122 | 0.0417 | 1.57% | 0.48% | 1.64% | 3.409 |
| 033.03 | Salt as chloride, Quantab (%) | 5 | 5 | 2.432 | 0.2315 | 0.2235 | 0.0851 | 0.2391 | 9.19% | 3.50% | 9.83% | 2.811 |
| 033.99 | Salt, Miscellaneous (%) | 8 | 8 | 2.476 | 0.0677 | 0.0629 | 0.0355 | 0.0722 | 2.54% | 1.43% | 2.92% | 2.036 |
| 035.41 | Sodium, ICP, Dry ash (%) | 19 | 18 | 0.9856 | 0.0494 | 0.0480 | 0.0165 | 0.0507 | 4.87% | 1.67% | 5.15% | 3.074 |
| 035.42 | Sodium, ICP, Open vessel (%) | 18 | 18 | 1.017 | 0.0805 | 0.0782 | 0.0274 | 0.0828 | 7.68% | 2.69% | 8.14% | 3.024 |
| 035.43 | Sodium, ICP, Microwave (%) | 25 | 23 | 0.9785 | 0.0830 | 0.0510 | 0.0283 | 0.0583 | 5.14% | 2.85% | 5.88% | 2.059 |
| 036.42 | Sulfur, ICP, Open vessel (%) | 18 | 16 | 0.5969 | 0.0385 | 0.0304 | 0.0090 | 0.0317 | 5.05% | 1.49% | 5.27% | 3.534 |
| 036.43 | Sulfur, ICP, Microwave (%) | 18 | 16 | 0.6410 | 0.0623 | 0.0479 | 0.0197 | 0.0518 | 7.58% | 3.12% | 8.20% | 2.630 |
| 037.31 | Zinc, AAS, Dry ash (ppm) | 5 | 5 | 431.1 | 25.85 | 21.72 | 19.82 | 29.41 | 5.04% | 4.60% | 6.82% | 1.484 |
| 037.41 | Zinc, ICP, Dry ash (ppm) | 14 | 13 | 395.3 | 33.88 | 25.00 | 7.308 | 26.05 | 6.23% | 1.82% | 6.49% | 3.564 |
| 037.42 | Zinc, ICP, Open vessel (ppm) | 21 | 20 | 402.6 | 61.08 | 29.39 | 14.62 | 32.82 | 7.10% | 3.53% | 7.93% | 2.245 |
| 037.43 | Zinc, ICP, Microwave (ppm) | 27 | 25 | 419.3 | 36.51 | 30.42 | 14.26 | 33.59 | 7.34% | 3.44% | 8.11% | 2.356 |
| 038.42 | Molybdenum, ICP, Open vessel (ppm) | 6 | 5 | 1.517 | 0.4940 | 0.4930 | 0.0437 | 0.4949 | 32.51% | 2.88% | 32.64% | 11.33 |
| 038.43 | Molybdenum, ICP, Microwave (ppm) | 8 | 8 | 1.553 | 0.2831 | 0.2669 | 0.1335 | 0.2985 | 17.19% | 8.60% | 19.22% | 2.236 |
| 106.02 | Vitamin A, LC (KU / kg) | 10 | 10 | 22.57 | 5.154 | 5.085 | 1.184 | 5.221 | 22.53% | 5.24% | 23.13% | 4.410 |
| 108.02 | Vitamin D3, LC (KU / kg) | 5 | 5 | 5.297 | 0.2077 | 0.1550 | 0.1956 | 0.2496 | 2.93% | 3.69% | 4.71% | 1.276 |
| 109.02 | Vitamin E, LC (IU / kg) | 11 | 11 | 190.4 | 16.08 | 6.822 | 20.59 | 21.70 | 3.58% | 10.82% | 11.40% | 1.053 |
| 120.00 | Alanine, Post-col Ninhydrin Der (%) | 16 | 15 | 1.448 | 0.0355 | 0.0310 | 0.0244 | 0.0395 | 2.14% | 1.69% | 2.72% | 1.617 |
| 120.05 | Alanine, Pre-col AQC Der (%) | 9 | 8 | 1.428 | 0.0850 | 0.0842 | 0.0161 | 0.0857 | 5.90% | 1.13% | 6.00% | 5.321 |
| 121.00 | Arginine, Post-col Ninhydrin Der (%) | 16 | 15 | 2.808 | 0.1858 | 0.1288 | 0.0538 | 0.1396 | 4.64% | 1.94% | 5.03% | 2.596 |

**Test Material Code # 202329** **Issue Date : 10/31/2023**

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 121.05 | Arginine, Pre-col AQC Der (%) | 9 | 8 | 2.613 | 0.2831 | 0.2640 | 0.0450 | 0.2678 | 9.93% | 1.69% | 10.08% | 5.947 |
| 122.00 | Aspartic, Post-col Ninhydrin Der (%) | 16 | 14 | 3.632 | 0.1349 | 0.0886 | 0.0519 | 0.1027 | 2.42% | 1.42% | 2.80% | 1.979 |
| 122.05 | Aspartic, Pre-col AQC Der (%) | 9 | 8 | 3.647 | 0.3409 | 0.2035 | 0.0417 | 0.2078 | 5.73% | 1.17% | 5.85% | 4.977 |
| 124.00 | Cysteine/Cystine, PAO Post-col Ninhydri (%) | 16 | 16 | 0.4821 | 0.0194 | 0.0177 | 0.0112 | 0.0209 | 3.67% | 2.32% | 4.34% | 1.870 |
| 124.05 | Cysteine/Cystine, PAO Pre-col AQC Der (%) | 9 | 9 | 0.4531 | 0.0717 | 0.0708 | 0.0164 | 0.0727 | 15.62% | 3.63% | 16.04% | 4.419 |
| 125.00 | Glutamic, Post-col Ninhydrin Der (%) | 16 | 14 | 6.360 | 0.2806 | 0.2887 | 0.0301 | 0.2902 | 4.53% | 0.47% | 4.56% | 9.658 |
| 125.05 | Glutamic, Pre-col AQC Der (%) | 9 | 9 | 6.433 | 0.5418 | 0.5354 | 0.1176 | 0.5482 | 8.32% | 1.83% | 8.52% | 4.661 |
| 126.00 | Glycine, Post-col Ninhydrin Der (%) | 16 | 14 | 1.454 | 0.0710 | 0.0330 | 0.0147 | 0.0361 | 2.29% | 1.02% | 2.51% | 2.454 |
| 126.05 | Glycine, Pre-col AQC Der (%) | 9 | 8 | 1.411 | 0.1051 | 0.1041 | 0.0198 | 0.1060 | 7.38% | 1.40% | 7.51% | 5.364 |
| 127.00 | Histidine, Post-col Ninhydrin Der (%) | 16 | 15 | 0.9057 | 0.0751 | 0.0273 | 0.0188 | 0.0332 | 3.07% | 2.12% | 3.73% | 1.762 |
| 127.05 | Histidine, Pre-col AQC Der (%) | 9 | 9 | 0.8852 | 0.1984 | 0.1970 | 0.0323 | 0.1997 | 22.26% | 3.65% | 22.56% | 6.172 |
| 128.00 | Isoleucine, Post-col Ninhydrin Der (%) | 16 | 14 | 1.375 | 0.0712 | 0.0530 | 0.0147 | 0.0550 | 3.89% | 1.08% | 4.04% | 3.732 |
| 128.05 | Isoleucine, Pre-col AQC Der (%) | 9 | 7 | 1.383 | 0.2528 | 0.0472 | 0.0257 | 0.0538 | 3.27% | 1.78% | 3.73% | 2.094 |
| 129.00 | Leucine, Post-col Ninhydrin Der (%) | 16 | 14 | 2.420 | 0.0758 | 0.0746 | 0.0144 | 0.0760 | 3.08% | 0.59% | 3.13% | 5.269 |
| 129.05 | Leucine, Pre-col AQC Der (%) | 9 | 7 | 2.347 | 0.2380 | 0.1426 | 0.0408 | 0.1483 | 5.94% | 1.70% | 6.18% | 3.635 |
| 130.00 | L-Lysine, Post-col Ninhydrin Der (%) | 16 | 15 | 1.912 | 0.0963 | 0.0437 | 0.0325 | 0.0545 | 2.31% | 1.72% | 2.88% | 1.674 |
| 130.05 | L-Lysine, Pre-col AQC Der (%) | 9 | 8 | 1.859 | 0.2217 | 0.2356 | 0.0326 | 0.2378 | 12.64% | 1.75% | 12.77% | 7.297 |
| 131.00 | Methionine, PAO Post-col Ninhydrin Der (%) | 16 | 16 | 0.4352 | 0.0301 | 0.0293 | 0.0098 | 0.0309 | 6.73% | 2.26% | 7.10% | 3.141 |
| 131.05 | Methionine, PAO Pre-col AQC Der (%) | 9 | 7 | 0.4018 | 0.0487 | 0.0262 | 0.0170 | 0.0312 | 6.30% | 4.08% | 7.51% | 1.840 |
| 132.00 | Phenylalanine, Post-col Ninhydrin Der (%) | 16 | 15 | 1.747 | 0.0515 | 0.0351 | 0.0272 | 0.0444 | 2.02% | 1.56% | 2.56% | 1.633 |
| 132.05 | Phenylalanine, Pre-col AQC Der (%) | 9 | 8 | 1.717 | 0.2102 | 0.1977 | 0.0402 | 0.2017 | 11.73% | 2.39% | 11.97% | 5.014 |
| 133.00 | Proline, Post-col Ninhydrin Der (%) | 16 | 13 | 1.686 | 0.2781 | 0.0802 | 0.0183 | 0.0823 | 4.97% | 1.14% | 5.10% | 4.489 |
| 133.05 | Proline, Pre-col AQC Der (%) | 9 | 8 | 1.594 | 0.0746 | 0.0657 | 0.0334 | 0.0737 | 4.15% | 2.11% | 4.66% | 2.204 |
| 134.00 | Serine, Post-col Ninhydrin Der (%) | 16 | 14 | 1.640 | 0.0947 | 0.0731 | 0.0239 | 0.0769 | 4.42% | 1.45% | 4.65% | 3.214 |
| 134.05 | Serine, Pre-col AQC Der (%) | 9 | 9 | 1.623 | 0.1462 | 0.1413 | 0.0530 | 0.1509 | 8.71% | 3.27% | 9.30% | 2.847 |
| 135.00 | Threonine, Post-col Ninhydrin Der (%) | 16 | 14 | 1.262 | 0.0459 | 0.0242 | 0.0129 | 0.0275 | 1.90% | 1.02% | 2.16% | 2.124 |
| 135.05 | Threonine, Pre-col AQC Der (%) | 9 | 8 | 1.270 | 0.1336 | 0.1288 | 0.0503 | 0.1383 | 10.14% | 3.96% | 10.89% | 2.749 |
| 136.00 | Tryptophan, Alka-Hydrol Post-col Ninhyd (%) | 6 | 6 | 0.4516 | 0.0522 | 0.0509 | 0.0166 | 0.0535 | 11.27% | 3.68% | 11.86% | 3.218 |
| 136.03 | Tryptophan, Alka-Hydrol + IS RP LC Fl (%) | 6 | 6 | 0.4728 | 0.0322 | 0.0318 | 0.0074 | 0.0326 | 6.72% | 1.56% | 6.90% | 4.415 |
| 137.00 | Tyrosine, Post-col Ninhydrin Der (%) | 13 | 12 | 1.095 | 0.1396 | 0.0898 | 0.0276 | 0.0940 | 7.98% | 2.45% | 8.35% | 3.409 |
| 137.05 | Tyrosine, Pre-col AQC Der (%) | 9 | 8 | 1.122 | 0.1289 | 0.0921 | 0.0289 | 0.0966 | 8.44% | 2.64% | 8.85% | 3.346 |
| 138.00 | Valine, Post-col Ninhydrin Der (%) | 16 | 14 | 1.543 | 0.0839 | 0.0689 | 0.0153 | 0.0705 | 4.50% | 1.00% | 4.61% | 4.617 |
| 138.05 | Valine, Pre-col AQC Der (%) | 9 | 7 | 1.530 | 0.2566 | 0.0523 | 0.0185 | 0.0554 | 3.26% | 1.15% | 3.46% | 2.996 |
| 351.03 | Chlortetracycline, LC (UV or FL) (ppm) | 9 | 8 | 107.8 | 20.11 | 19.96 | 3.486 | 20.26 | 18.52% | 3.23% | 18.80% | 5.813 |
| 361.02 | Lasalocid Sodium, LC (ppm) | 7 | 6 | 198.4 | 14.57 | 3.560 | 7.284 | 8.107 | 1.75% | 3.58% | 3.98% | 1.113 |
| 361.03 | Lasalocid Sodium, LC (UV or FL) (ppm) | 11 | 8 | 183.8 | 20.54 | 7.708 | 3.205 | 8.348 | 4.16% | 1.73% | 4.50% | 2.605 |
| 400.01 | Water Activity, Aqualab chilled mirror (Units) | 11 | 10 | 0.5631 | 0.0074 | 0.0075 | 0.0011 | 0.0076 | 1.33% | 0.19% | 1.34% | 6.925 |

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