



**AAFCO**  
Association of American Feed Control Officials



**Animal Feed Scheme**  
**Calf Starter, Medicated**  
**Test Material Code # 202523**

## Analyte Summary Report

**# Labs Reporting: 165**  
**# Analytes Reported: 115**  
**Issue Date : 04/30/2025**

| Analyte Group Code | Analyte and Method           | Total # Tests Submitted | # Tests 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 |
|--------------------|------------------------------|-------------------------|-------------------------|----------|--------|----------------------------|---------------------|------------------------|----------------|---------------------------|-----------------------|
| 001                | Loss on Drying (%)           | 69                      | 66                      | 7.991    | 0.6070 | 8.010                      | 0.3469              | 0.0534                 | 4.33%          | 0.1056                    | 2.92%                 |
| 002                | Protein, Crude (%)           | 160                     | 158                     | 18.02    | 0.5941 | 17.98                      | 0.3258              | 0.0324                 | 1.81%          | 0.1719                    | 2.36%                 |
| 003                | Fat, Crude (%)               | 136                     | 132                     | 3.920    | 0.4213 | 3.885                      | 0.3018              | 0.0328                 | 7.77%          | 0.0925                    | 3.26%                 |
| 004                | Fiber, Crude (%)             | 109                     | 108                     | 14.07    | 0.7067 | 14.06                      | 0.6605              | 0.0794                 | 4.70%          | 0.2570                    | 2.67%                 |
| 005                | Ash (%)                      | 127                     | 124                     | 6.634    | 0.4142 | 6.589                      | 0.2766              | 0.0311                 | 4.20%          | 0.0739                    | 3.01%                 |
| 006                | Total Sugars (%)             | 8                       | 8                       | 4.890    | 1.035  | 5.061                      | 0.7256              | 0.3207                 | 14.34%         | 0.1855                    | 3.13%                 |
| 008                | Fiber, Acid Detergent (%)    | 58                      | 58                      | 19.85    | 1.160  | 19.85                      | 1.210               | 0.1985                 | 6.09%          | 0.3366                    | 2.24%                 |
| 009                | Fiber, Neutral Detergent (%) | 51                      | 50                      | 34.46    | 1.199  | 34.39                      | 1.202               | 0.2124                 | 3.49%          | 0.3321                    | 1.71%                 |
| 010                | Moisture (%)                 | 24                      | 24                      | 7.973    | 0.9856 | 8.097                      | 0.6757              | 0.1724                 | 8.34%          | 0.0808                    | 2.92%                 |
| 011                | Loss on Drying, HT (%)       | 69                      | 66                      | 9.077    | 0.4364 | 9.104                      | 0.4045              | 0.0622                 | 4.44%          | 0.1016                    | 2.87%                 |
| 012                | Starch (%)                   | 38                      | 38                      | 13.09    | 1.407  | 13.09                      | 1.380               | 0.2798                 | 10.54%         | 0.3642                    | 2.72%                 |
| 013                | Fat, Pretreat (%)            | 50                      | 50                      | 4.913    | 0.6564 | 4.946                      | 0.6024              | 0.1065                 | 12.18%         | 0.1959                    | 3.14%                 |
| 014                | Fiber, Total Dietary (%)     | 2                       | 2                       | 39.58    | 1.099  |                            |                     |                        |                |                           |                       |
| 015                | Aluminum (ppm)               | 17                      | 16                      | 56.53    | 21.41  | 54.85                      | 17.24               | 5.389                  | 31.44%         | 2.393                     | 8.76%                 |
| 017                | Boron (ppm)                  | 19                      | 18                      | 11.00    | 2.669  | 10.91                      | 1.493               | 0.4398                 | 13.69%         | 0.4265                    | 11.17%                |
| 019                | Calcium (%)                  | 124                     | 122                     | 0.8872   | 0.0592 | 0.8892                     | 0.0481              | 0.0054                 | 5.41%          | 0.0257                    | 4.07%                 |
| 021                | Cobalt (ppm)                 | 29                      | 27                      | 1.114    | 0.1551 | 1.114                      | 0.1622              | 0.0390                 | 14.56%         | 0.0577                    | 15.74%                |
| 022                | Copper (ppm)                 | 90                      | 88                      | 22.05    | 2.935  | 21.87                      | 2.144               | 0.2857                 | 9.80%          | 1.131                     | 10.05%                |
| 024                | Iodine (ppm)                 | 1                       | 1                       | 1.465    |        |                            |                     |                        |                |                           |                       |
| 025                | Iron (ppm)                   | 90                      | 87                      | 221.4    | 18.99  | 221.7                      | 16.06               | 2.152                  | 7.24%          | 7.848                     | 7.10%                 |
| 027                | Magnesium (%)                | 89                      | 88                      | 0.3224   | 0.0207 | 0.3237                     | 0.0156              | 0.0021                 | 4.83%          | 0.0106                    | 4.74%                 |
| 028                | Manganese (ppm)              | 95                      | 94                      | 119.3    | 8.249  | 119.1                      | 7.780               | 1.003                  | 6.53%          | 4.162                     | 7.79%                 |
| 030                | Nitrate (%)                  | 1                       |                         | 0.0000   |        |                            |                     |                        |                |                           |                       |
| 031                | Phosphorus (%)               | 119                     | 115                     | 0.6373   | 0.0327 | 0.6372                     | 0.0304              | 0.0035                 | 4.76%          | 0.0145                    | 4.28%                 |
| 032                | Potassium (%)                | 91                      | 89                      | 1.152    | 0.0631 | 1.153                      | 0.0536              | 0.0071                 | 4.64%          | 0.0288                    | 3.91%                 |
| 033                | Salt as chloride (%)         | 58                      | 57                      | 0.5813   | 0.1544 | 0.5505                     | 0.0619              | 0.0102                 | 11.24%         | 0.0223                    | 4.38%                 |
| 034                | Selenium, Total (Se) (ppm)   | 26                      | 22                      | 0.6756   | 0.2317 | 0.6211                     | 0.0788              | 0.0210                 | 12.69%         | 0.0372                    | 17.19%                |
| 035                | Sodium (%)                   | 82                      | 79                      | 0.4106   | 0.0231 | 0.4119                     | 0.0213              | 0.0030                 | 5.17%          | 0.0142                    | 4.57%                 |
| 036                | Sulfur (%)                   | 44                      | 43                      | 0.5217   | 0.0295 | 0.5233                     | 0.0254              | 0.0048                 | 4.86%          | 0.0136                    | 4.41%                 |

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|--------------------|---------------------------------|-------------------------|-------------------------|----------|--------|----------------------------|---------------------|------------------------|----------------|---------------------------|-----------------------|
| 037                | Zinc (ppm)                      | 93                      | 90                      | 150.6    | 12.61  | 150.5                      | 11.20               | 1.475                  | 7.44%          | 5.260                     | 7.52%                 |
| 038                | Molybdenum (ppm)                | 29                      | 27                      | 1.668    | 0.3070 | 1.661                      | 0.2579              | 0.0620                 | 15.53%         | 0.1186                    | 14.82%                |
| 040                | Barium (ppm)                    | 3                       | 3                       | 13.95    | 1.076  | 13.95                      | 1.076               | 0.6211                 | 7.71%          | 0.1839                    | 10.76%                |
| 041                | Vanadium (ppm)                  | 2                       | 2                       | 0.2627   | 0.0441 |                            |                     |                        |                |                           |                       |
| 042                | Chloride (%)                    | 7                       | 7                       | 0.3312   | 0.0342 | 0.3315                     | 0.0288              | 0.0136                 | 8.70%          | 0.0124                    | 4.72%                 |
| 101                | Choline Chloride (ppm)          | 1                       | 1                       | 1,560    |        |                            |                     |                        |                |                           |                       |
| 102                | Niacin (ppm)                    | 2                       | 2                       | 41.48    | 34.54  |                            |                     |                        |                |                           |                       |
| 103                | Pantothenic Acid (ppm)          | 1                       | 1                       | 6.670    |        |                            |                     |                        |                |                           |                       |
| 104                | Riboflavin (ppm)                | 3                       | 2                       | 1.690    | 0.8415 | 1.690                      | 0.8415              | 0.5950                 | 49.79%         | 0.0800                    | 14.78%                |
| 105                | Thiamine (ppm)                  | 2                       | 2                       | 2.623    | 1.064  |                            |                     |                        |                |                           |                       |
| 106                | Vitamin A (KU / kg)             | 14                      | 14                      | 17.94    | 3.884  | 17.81                      | 4.120               | 1.376                  | 23.13%         | 1.930                     |                       |
| 107                | Vitamin B12 (ppb)               | 2                       |                         | 4.400    |        |                            |                     |                        |                |                           |                       |
| 108                | Vitamin D3 (KU / kg)            | 5                       | 3                       | 6.295    | 0.9025 | 6.295                      | 0.9025              | 0.5211                 | 14.34%         | 0.3367                    |                       |
| 109                | Vitamin E (IU / kg)             | 11                      | 11                      | 124.3    | 22.80  | 125.9                      | 14.35               | 5.408                  | 11.39%         | 13.24                     |                       |
| 111                | Vitamin C, Phosphorylated (ppm) | 1                       |                         | 4.400    |        |                            |                     |                        |                |                           |                       |
| 112                | Pyridoxine (µg / g)             | 2                       | 2                       | 3.983    | 1.679  |                            |                     |                        |                |                           |                       |
| 113                | Folic Acid (ppm)                | 2                       | 1                       | 1.070    |        |                            |                     |                        |                |                           |                       |
| 114                | Biotin (ppm)                    | 2                       | 2                       | 0.1868   | 0.0506 |                            |                     |                        |                |                           |                       |
| 115                | Non Protein N (NPN) (%)         | 3                       | 3                       | 0.4469   | 0.2952 | 0.4469                     | 0.2952              | 0.1704                 | 66.05%         | 0.0649                    | 4.52%                 |
| 120                | Alanine (%)                     | 25                      | 25                      | 0.8690   | 0.0397 | 0.8696                     | 0.0229              | 0.0057                 | 2.64%          | 0.0152                    | 4.08%                 |
| 121                | Arginine (%)                    | 25                      | 24                      | 1.075    | 0.0640 | 1.068                      | 0.0468              | 0.0119                 | 4.39%          | 0.0148                    | 3.96%                 |
| 122                | Aspartic (%)                    | 25                      | 24                      | 1.397    | 0.0675 | 1.388                      | 0.0416              | 0.0106                 | 3.00%          | 0.0196                    | 3.81%                 |
| 124                | Cysteine/Cystine (%)            | 24                      | 23                      | 0.2994   | 0.0230 | 0.3024                     | 0.0160              | 0.0042                 | 5.29%          | 0.0051                    | 4.79%                 |
| 125                | Glutamic (%)                    | 25                      | 24                      | 3.169    | 0.1046 | 3.160                      | 0.0802              | 0.0205                 | 2.54%          | 0.0511                    | 3.36%                 |
| 126                | Glycine (%)                     | 25                      | 24                      | 0.8297   | 0.0421 | 0.8251                     | 0.0236              | 0.0060                 | 2.86%          | 0.0109                    | 4.12%                 |
| 127                | Histidine (%)                   | 25                      | 24                      | 0.4376   | 0.0279 | 0.4389                     | 0.0194              | 0.0050                 | 4.43%          | 0.0079                    | 4.53%                 |
| 128                | Isoleucine (%)                  | 25                      | 24                      | 0.6045   | 0.0339 | 0.6053                     | 0.0282              | 0.0072                 | 4.65%          | 0.0088                    | 4.31%                 |
| 129                | Leucine (%)                     | 25                      | 24                      | 1.297    | 0.0550 | 1.303                      | 0.0347              | 0.0089                 | 2.66%          | 0.0188                    | 3.84%                 |
| 130                | L-Lysine (%)                    | 26                      | 26                      | 0.7215   | 0.0423 | 0.7203                     | 0.0455              | 0.0112                 | 6.32%          | 0.0139                    | 4.20%                 |
| 131                | Methionine (%)                  | 25                      | 25                      | 0.2627   | 0.0112 | 0.2625                     | 0.0112              | 0.0028                 | 4.26%          | 0.0073                    | 4.89%                 |
| 132                | Phenylalanine (%)               | 25                      | 24                      | 0.7789   | 0.0459 | 0.7816                     | 0.0374              | 0.0096                 | 4.79%          | 0.0144                    | 4.15%                 |
| 133                | Proline (%)                     | 24                      | 24                      | 1.069    | 0.0533 | 1.068                      | 0.0538              | 0.0137                 | 5.04%          | 0.0242                    | 3.96%                 |
| 134                | Serine (%)                      | 25                      | 24                      | 0.7965   | 0.0390 | 0.7966                     | 0.0217              | 0.0055                 | 2.72%          | 0.0144                    | 4.14%                 |
| 135                | Threonine (%)                   | 25                      | 24                      | 0.5947   | 0.0228 | 0.5941                     | 0.0195              | 0.0050                 | 3.28%          | 0.0107                    | 4.33%                 |
| 136                | Tryptophan (%)                  | 18                      | 18                      | 0.2286   | 0.0309 | 0.2285                     | 0.0283              | 0.0083                 | 12.38%         | 0.0059                    | 4.99%                 |
| 137                | Tyrosine (%)                    | 23                      | 23                      | 0.5298   | 0.0539 | 0.5277                     | 0.0563              | 0.0147                 | 10.68%         | 0.0181                    | 4.40%                 |
| 138                | Valine (%)                      | 25                      | 23                      | 0.7912   | 0.0377 | 0.7912                     | 0.0342              | 0.0089                 | 4.33%          | 0.0107                    | 4.14%                 |
| 139                | Taurine (%)                     | 6                       | 3                       | 0.1142   | 0.0570 | 0.1142                     | 0.0570              | 0.0412                 | 49.95%         |                           | 5.54%                 |
| 160                | Fructose (%)                    | 3                       | 3                       | 0.2567   | 0.0939 | 0.2567                     | 0.0939              | 0.0542                 | 36.56%         | 0.0667                    | 4.91%                 |
| 161                | Galactose (%)                   | 2                       | 1                       | 0.1300   |        |                            |                     |                        |                |                           |                       |

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|--------------------|--------------------------------------------------------------------|-------------------------|-------------------------|----------|--------|----------------------------|---------------------|------------------------|----------------|---------------------------|-----------------------|
| 162                | Glucose (%)                                                        | 3                       | 3                       | 0.3750   | 0.1411 | 0.3750                     | 0.1411              | 0.0814                 | 37.62%         | 0.0433                    | 4.64%                 |
| 163                | Lactose (%)                                                        | 3                       | 1                       |          |        |                            |                     |                        |                |                           |                       |
| 164                | Maltose (%)                                                        | 3                       | 2                       | 0.2950   | 0.0071 | 0.2950                     | 0.0071              | 0.0050                 | 2.40%          |                           | 4.81%                 |
| 165                | Sucrose (%)                                                        | 3                       | 3                       | 1.807    | 0.3350 | 1.807                      | 0.3350              | 0.1934                 | 18.54%         | 0.1267                    | 3.66%                 |
| 166                | Raffinose (%)                                                      | 3                       | 3                       | 0.7817   | 0.2166 | 0.7817                     | 0.2166              | 0.1250                 | 27.71%         | 0.1033                    | 4.15%                 |
| 167                | Stachyose (%)                                                      | 3                       | 3                       | 0.8783   | 0.0058 | 0.8783                     | 0.0058              | 0.0033                 | 0.66%          | 0.0567                    | 4.08%                 |
| 354                | Decoquinatate (ppm)                                                | 2                       | 2                       | 1.493    | 1.142  |                            |                     |                        |                |                           |                       |
| 365                | Monensin (ppm)                                                     | 30                      | 30                      | 37.41    | 5.271  | 37.01                      | 4.055               | 0.9255                 | 10.96%         | 1.316                     | 9.29%                 |
| 400                | Water Activity (Units)                                             | 17                      | 16                      | 0.4717   | 0.0732 | 0.4624                     | 0.0442              | 0.0138                 | 9.56%          | 0.0066                    |                       |
| 516                | Arsenic, Total (As) (ppm)                                          | 8                       | 6                       | 0.0415   | 0.0064 | 0.0420                     | 0.0062              | 0.0032                 | 14.72%         | 0.0098                    | 22.00%                |
| 518                | Cadmium (ppm)                                                      | 10                      | 10                      | 0.1253   | 0.0516 | 0.1161                     | 0.0234              | 0.0092                 | 20.14%         | 0.0061                    | 22.00%                |
| 520                | Chromium, Total (Cr) (ppm)                                         | 18                      | 16                      | 1.966    | 0.6440 | 1.980                      | 0.6717              | 0.2099                 | 33.93%         | 0.0930                    | 14.43%                |
| 526                | Lead (ppm)                                                         | 9                       | 9                       | 0.2030   | 0.3935 | 0.0793                     | 0.0382              | 0.0159                 | 48.16%         | 0.0109                    | 22.00%                |
| 529                | Mercury (ppb)                                                      | 4                       | 2                       | 270.3    | 381.4  | 270.3                      | 381.4               | 269.7                  | 141.11%        |                           | 19.48%                |
| 539                | Nickel (ppm)                                                       | 10                      | 10                      | 2.115    | 0.6242 | 2.042                      | 0.5205              | 0.2058                 | 25.49%         | 0.0541                    | 14.37%                |
| 702                | Butyric Acid (4:0) (%)                                             | 1                       |                         | 0.0005   |        |                            |                     |                        |                |                           |                       |
| 704                | Caproic Acid (6:0) (%)                                             | 1                       |                         | 0.0000   |        |                            |                     |                        |                |                           |                       |
| 706                | Caprylic acid (8:0) (%) (w/w))                                     | 1                       |                         | 0.0005   |        |                            |                     |                        |                |                           |                       |
| 708                | Capric acid (10:0) (%) (w/w))                                      | 1                       |                         | 0.0005   |        |                            |                     |                        |                |                           |                       |
| 710                | Lauric Acid (12:0) (%) (w/w))                                      | 3                       | 1                       |          |        |                            |                     |                        |                |                           |                       |
| 714                | Myristic Acid (14:0) (%) (w/w))                                    | 3                       | 3                       | 0.0082   | 0.0018 | 0.0082                     | 0.0018              | 0.0010                 | 21.84%         |                           | 8.25%                 |
| 716                | Palmitic Acid (16:0) (%) (w/w))                                    | 3                       | 3                       | 0.6990   | 0.0170 | 0.6990                     | 0.0170              | 0.0098                 | 2.44%          | 0.0266                    | 4.22%                 |
| 718                | Palmitoleic Acid (9c-16:1) (%) (w/w))                              | 3                       | 3                       | 0.0090   | 0.0009 | 0.0090                     | 0.0009              | 0.0005                 | 9.67%          |                           | 8.13%                 |
| 720                | Margaric acid (17:0) (%) (w/w))                                    | 1                       | 1                       | 0.0080   |        |                            |                     |                        |                |                           |                       |
| 722                | Stearic Acid (18:0) (%) (w/w))                                     | 3                       | 3                       | 0.0918   | 0.0018 | 0.0918                     | 0.0018              | 0.0010                 | 1.91%          | 0.0066                    | 5.73%                 |
| 724                | Oleic Acid (9c-18:1) (%) (w/w))                                    | 3                       | 3                       | 0.8123   | 0.0225 | 0.8123                     | 0.0225              | 0.0130                 | 2.77%          | 0.0260                    | 4.13%                 |
| 726                | Linoleic Acid (9c,12c-18:2) (%) (w/w))                             | 3                       | 3                       | 2.269    | 0.1015 | 2.269                      | 0.1015              | 0.0586                 | 4.47%          | 0.0629                    | 3.54%                 |
| 728                | alpha-Linolenic Acid (9c,12c,15c-18:3) (%) (w/w))                  | 3                       | 3                       | 0.1528   | 0.0070 | 0.1528                     | 0.0070              | 0.0040                 | 4.59%          | 0.0079                    | 5.31%                 |
| 730                | Arachidic Acid (20:0) (%) (w/w))                                   | 3                       | 3                       | 0.0122   | 0.0019 | 0.0122                     | 0.0019              | 0.0011                 | 15.47%         | 0.0016                    | 7.77%                 |
| 732                | Gondoic Acid (11c-20:1) (%) (w/w))                                 | 2                       | 2                       | 0.0174   | 0.0006 |                            |                     |                        |                |                           |                       |
| 736                | Arachidonic Acid (5c,8c,11c,14c-20:4) (%) (w/w))                   | 2                       |                         | 0.0000   |        |                            |                     |                        |                |                           |                       |
| 740                | Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5) (%) (w/w))      | 3                       | 1                       |          |        |                            |                     |                        |                |                           |                       |
| 742                | Behenic Acid (22:0) (%) (w/w))                                     | 2                       | 2                       | 0.0114   | 0.0023 |                            |                     |                        |                |                           |                       |
| 744                | Erucic Acid (13c-22:1) (%) (w/w))                                  | 2                       | 1                       | 0.0040   |        |                            |                     |                        |                |                           |                       |
| 746                | Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5) (%) (w/w)) | 3                       |                         |          |        |                            |                     |                        |                |                           |                       |
| 748                | Lignoceric Acid (24:0) (%) (w/w))                                  | 2                       | 2                       | 0.0125   | 0.0008 |                            |                     |                        |                |                           |                       |
| 750                | Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6) (%) (w/w))   | 3                       |                         |          |        |                            |                     |                        |                |                           |                       |
| 752                | Nervonic Acid (24:1) isomers (%) (w/w))                            | 2                       | 1                       | 0.0100   |        |                            |                     |                        |                |                           |                       |
| 754                | Total n-3 Polyunsaturated (Omega-3) Fatty Acids (%) (w/w))         | 2                       | 2                       | 0.1710   | 0.0339 |                            |                     |                        |                |                           |                       |
| 756                | Total n-6 Polyunsaturated (Omega-6) Fatty Acids (%) (w/w))         | 2                       | 2                       | 2.296    | 0.1262 |                            |                     |                        |                |                           |                       |

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|-----------------------|-------------------------------------------------|----------------------------|----------------------------|-------------|--------|-------------------------------|------------------------|-----------------------------|-------------------|------------------------------|--------------------------|
| 758                   | Total Saturated Fatty Acids (% (w/w))           | 2                          | 2                          | 0.8740      | 0.0226 |                               |                        |                             |                   |                              |                          |
| 762                   | Total Monounsaturated Fatty Acids (% (w/w))     | 1                          | 1                          | 0.9100      |        |                               |                        |                             |                   |                              |                          |
| 764                   | Total cis Monounsaturated Fatty Acids (% (w/w)) | 1                          | 1                          | 0.8870      |        |                               |                        |                             |                   |                              |                          |
| 768                   | Total cis Polyunsaturated Fatty Acids (% (w/w)) | 1                          | 1                          | 2.362       |        |                               |                        |                             |                   |                              |                          |
| 770                   | Total Fat (equivalent to NLEA) (% (w/w))        | 1                          | 1                          | 4.318       |        |                               |                        |                             |                   |                              |                          |
| 772                   | Total Fatty Acids (% (w/w))                     | 2                          | 2                          | 4.079       | 0.0693 |                               |                        |                             |                   |                              |                          |

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.