# 2022 Table 2. Manure databank

Table 2 is used to calculate the available nitrogen (N), phosphorus (P) and potassium (K) from various livestock types. This technical information is for Ontario producers.

## Introduction

The nutrients from manure and other organic amendments have a nutrient and economic value. The Table that follows gives an estimate of the total and available nitrogen (N), phosphorus (P) and potassium (K), as well as estimates of the dry matter / total solids from various livestock types and other organic amendments. The information is based on average analysis results from over 12,000 Ontario laboratory samples. All information in the Table is presented in an "as-is basis," or the nutrients as applied at the listed dry matter content.

The available nitrogen is determined based on the total nitrogen concentration, the time of year of material application, and assumes that the material is applied and incorporated within 24 hours. The actual available nitrogen can vary due to the composition of the material and weather. The organic nitrogen portion of manure becomes more available over time. The expected amount of organic nitrogen (ON) that becomes available in progressive years is higher for solid manure than for liquid manure.

The total phosphorus (P) content available to crops is assumed to be 80%, however, a portion is unavailable to the crop immediately after application. This is reflected in the Tables through different values for immediate and long term available nutrient $P_2O_5$. The potassium (K) content immediately available to crops is assumed to be 90%.

The actual immediate economic nutrient value for crop production will be less than what is reflected in the Table if the nutrients being applied are not required for the production of the crop. An example of this would be the nitrogen from manure applied to a legume crop, or the phosphorus and/or potassium applied to a field with a soil test higher than 30 mg/L (ppm) or 120 mg/L (ppm) for P and K, respectively.

The values in these tables were compiled by the Ministry of Agriculture, Food and Rural Affairs, with aggregate sample data provided by Ontario labs.

When land applying nutrients using this Table, observe all regulatory requirements and necessary approvals. The nutrient content of sewage biosolids must be confirmed through analytical testing prior to land application as part of a Non-Agricultural Source Material (NASM) plan.

O. Reg. 267/03 (the Regulation) incorporates by reference the Nutrient Management Protocol (the Protocol). The Protocol forms part of the Regulation and it is legally binding. The Protocol is defined in the Regulation and includes the Nutrient Management Tables (Tables). Information from Table 2 regarding total nutrient content (TKN, $NH_4$-N, TP, TK) and total solids / dry matter can be used to comply with requirements in subsections 81(5) and 91(3) of the Regulation and sections 7.3 and 10.3 of the Protocol. Other information found in Table 2 may be useful for other purposes.

Notes: TKN – Total Kjeldhal Nitrogen, NH4-N – Ammonia and Ammonium Nitrogen, P – Phosphorus, K - Potassium

# Liquid Manure – Available Nutrients and Value for Manure from Various Livestock Types – Imperial Units

## Swine

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/1000 gallons) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/1000 gallons) | Available Nutrients (in year of application) $K_2O$ (lbs/1000 gallons) | Year 1 Value [3] ($/1000 gallons) | Year 2-4 Value [3] ($/1000 gallons) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 3.2 | 14.1 | 24.7 | 9.8 | 19.7 | 20.2 | 58 | 13 | 0.372 | 0.2452 | 0.107 | 0.187 | 3558 |
| 10-18% DM | 12.3 | 30.9 | 45.5 | 30.2 | 60.4 | 36.5 | 119 | 40 | 0.813 | 0.4634 | 0.328 | 0.338 | 94 |
| 6-10% DM | 7.8 | 25.2 | 41.0 | 21.7 | 43.4 | 32.1 | 100 | 29 | 0.664 | 0.4054 | 0.236 | 0.297 | 358 |
| 4-6% DM | 4.9 | 20.0 | 34.7 | 14.6 | 29.3 | 27.1 | 81 | 20 | 0.526 | 0.3330 | 0.159 | 0.251 | 573 |
| 2-4% DM | 2.9 | 13.9 | 24.8 | 9.8 | 19.5 | 20.3 | 58 | 13 | 0.366 | 0.2433 | 0.106 | 0.188 | 1165 |
| 0-2% DM | 1.2 | 8.1 | 15.0 | 3.7 | 7.4 | 13.5 | 34 | 5 | 0.214 | 0.1600 | 0.040 | 0.125 | 1251 |
| Nursery | 3.0 | 12.2 | 21.1 | 9.6 | 19.1 | 18.9 | 52 | 13 | 0.32 | 0.2005 | 0.104 | 0.175 | 67 |
| Farrowing sows | 1.7 | 8.8 | 15.6 | 5.5 | 11.0 | 11.7 | 35 | 7 | 0.231 | 0.1654 | 0.060 | 0.108 | 497 |
| Weaners | 1.9 | 8.4 | 14.7 | 10.7 | 21.3 | 24.6 | 50 | 13 | 0.221 | 0.1455 | 0.116 | 0.228 | 159 |
| Finishers | 4.7 | 18.8 | 31.9 | 12.8 | 25.6 | 28.9 | 77 | 17 | 0.494 | 0.3321 | 0.139 | 0.268 | 897 |
| Farrow to finish | 3.5 | 15.2 | 26.3 | 9.4 | 18.8 | 22.7 | 61 | 13 | 0.40 | 0.2717 | 0.102 | 0.210 | 179 |
| Dry sows and boars | 1.9 | 10.5 | 19.5 | 6.6 | 13.2 | 13.7 | 43 | 9 | 0.276 | 0.1700 | 0.072 | 0.127 | 204 |

## Dairy

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/1000 gallons) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/1000 gallons) | Available Nutrients (in year of application) $K_2O$ (lbs/1000 gallons) | Year 1 Value [3] ($/1000 gallons) | Year 2-4 Value [3] ($/1000 gallons) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 8.1 | 9.7 | 16.4 | 7.5 | 15.1 | 25.9 | 50 | 12.50 | 0.360 | 0.1492 | 0.082 | 0.240 | 3252 |
| Sandbedded [4] (3.2% sand) | 7.2 | 6.0 | 11.6 | 4.9 | 9.8 | 26.6 | 42 | 7.50 | 0.223 | 0.1119 | 0.053 | 0.246 | 51 |
| 10-18% DM | 14.0 | 13.9 | 19.7 | 12.2 | 24.4 | 33.2 | 65 | 20 | 0.516 | 0.1721 | 0.133 | 0.307 | 821 |
| 8-10% DM | 8.9 | 11.0 | 18.5 | 8.0 | 16.0 | 28.9 | 55 | 13 | 0.407 | 0.1881 | 0.087 | 0.268 | 561 |
| 6-8% DM | 7.1 | 9.2 | 16.0 | 6.2 | 12.3 | 25.5 | 48 | 10 | 0.339 | 0.1604 | 0.067 | 0.236 | 836 |
| 2-6% DM | 4.4 | 6.5 | 12.6 | 3.9 | 7.7 | 20.2 | 36 | 7 | 0.242 | 0.1222 | 0.042 | 0.187 | 861 |
| 0-2% DM | 1.2 | 3.2 | 7.8 | 1.8 | 3.7 | 12.2 | 22 | 3 | 0.117 | 0.0628 | 0.02 | 0.113 | 164 |

## Beef

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids | Available Nutrients (in year of application) Useable N | Available Nutrients (in year of application) Useable N | Available Nutrients (in year of application) | Available Nutrients (in year of application) | Available Nutrients (in year of application) $K_2O$ | Year 1 Value [3] ($/1000 gallons) | Year 2-4 Value [3] | Total Nutrient Content (as is | Total Nutrient Content (as is basis) $NH_4$-N | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | (%) | [1] Fall Applied (lbs/1000 gallons) | [1] Spring Applied (lbs/1000 gallons) | $P_2O_5$ [2] Immediate (lbs/1000 gallons) | $P_2O_5$ [2] Long Term (lbs/1000 gallons) | (lbs/1000 gallons) | | ($/1000 gallons) | basis) TKN (%) | (%) | | (%) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 8.1 | 9.7 | 15.9 | 7.2 | 14.4 | 24.6 | 48 | 12 | 0.358 | 0.1572 | 0.078 | 0.228 | 244 |
| 10-18% DM | 14.6 | 14.3 | 20.0 | 12.8 | 25.6 | 36.5 | 69 | 21 | 0.528 | 0.1691 | 0.139 | 0.338 | 80 |
| 6-10% DM | 7.7 | 11.7 | 22.4 | 8.7 | 17.5 | 24.3 | 57 | 14 | 0.432 | 0.2151 | 0.095 | 0.225 | 58 |
| 2-6% DM | 4.1 | 6.7 | 13.6 | 4.9 | 9.8 | 17.9 | 37 | 8 | 0.249 | 0.1308 | 0.053 | 0.166 | 72 |
| 0-2%DM | 1.0 | 3.1 | 7.8 | 2.1 | 4.2 | 9.4 | 20 | 3 | 0.113 | 0.0598 | 0.023 | 0.087 | 31 |
| Cow-calf | 4.7 | 7.0 | 13.5 | 5.8 | 11.6 | 22.5 | 41 | 9 | 0.259 | 0.1259 | 0.063 | 0.208 | 9 |
| Finisher | 8.6 | 12.1 | 22.8 | 8.5 | 16.9 | 21.4 | 55 | 14 | 0.449 | 0.2054 | 0.092 | 0.198 | 25 |

## Sheep

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/1000 gallons) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/1000 gallons) | Available Nutrients (in year of application) $K_2O$ (lbs/1000 gallons) | Year 1 Value [3] ($/1000 gallons) | Year 2-4 Value [3] ($/1000 gallons) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 7.4 | 14.1 | 32.8 | 12.0 | 23.9 | 22.9 | 72 | 20 | 0.521 | 0.1904 | 0.130 | 0.212 | 7 |

## Poultry

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/1000 gallons) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/1000 gallons) | Available Nutrients (in year of application) $K_2O$ (lbs/1000 gallons) | Year 1 Value [3] ($/1000 gallons) | Year 2-4 Value [3] ($/1000 gallons) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers | 9.9 | 26.7 | 47.6 | 24.8 | 49.7 | 101 | 32 | 19.3 | 0.81 | 0.56 | 0.27 | 0.29 | 81 |
| Pullets | 15.3 | 38.5 | 58.5 | 36.8 | 73.6 | 114 | 43 | 29.1 | 1.04 | 0.62 | 0.40 | 0.34 | 11 |

## Mink

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/1000 gallons) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/1000 gallons) | Available Nutrients (in year of application) $K_2O$ (lbs/1000 gallons) | Year 1 Value [3] ($/1000 gallons) | Year 2-4 Value [3] ($/1000 gallons) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| composite | 2.9 | 11.8 | 24.7 | 7.4 | 14.7 | 8.1 | 45 | 11 | 0.359 | 0.2168 | 0.08 | 0.075 | 31 |

## Washwater[5]/Runoff

| Dry Matter (DM) Range | Average Dry Matter | Available Nutrients (in year of application) | Available Nutrients (in year of application) | Available Nutrients (in year of application) | Available Nutrients (in year of application) | Available Nutrients (in year of | Year 1 Value [3] | Year 2-4 Value [3] | Total Nutrient Content (as is | Total Nutrient Content (as | Total Nutrient | Total Nutrient Content | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | (DM)/Total Solids (%) | Useable N [1] Fall Applied (lbs/1000 gallons) | Useable N [1] Spring Applied (lbs/1000 gallons) | $P_2O_5$ [2] Immediate (lbs/1000 gallons) | $P_2O_5$ [2] Long Term (lbs/1000 gallons) | application) $K_2O$ (lbs/1000 gallons) | ($/1000 gallons) | ($/1000 gallons) | basis) TKN (%) | is basis) $NH_4$-N (%) | Content (as is basis) P (%) | (as is basis) K (%) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 0.8 | 2.5 | 6.0 | 1.1 | 2.2 | 5.6 | 13 | 1.50 | 0.0937 | 0.0744 | 0.012 | 0.052 | 126 |

## Milk-fed veal

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/1000 gallons) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/1000 gallons) | Available Nutrients (in year of application) $K_2O$ (lbs/1000 gallons) | Year 1 Value [3] ($/1000 gallons) | Year 2-4 Value [3] ($/1000 gallons) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 2.2 | 4.0 | 8.5 | 2.54 | 4.8 | 18.8 | 28 | 4 | 0.148 | 0.0809 | 0.026 | 0.174 | 5 |

## Anaerobic Digestion Output[6]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied | Available Nutrients (in year of application) Useable N [1] Spring Applied | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/1000 gallons) | Available Nutrients (in year of application) $K_2O$ (lbs/1000 gallons) | Year 1 Value [3] ($/1000 gallons) | Year 2-4 Value [3] ($/1000 gallons) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | (lbs/1000 gallons) | (lbs/1000 gallons) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| composite | 4.2 | 16.6 | 29.5 | 7.2 | 14.4 | 17.7 | 59 | 12 | 0.4366 | 0.2386 | 0.078 | 0.164 | 86 |

## Sewage Biosolids[7]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/1000 gallons) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/1000 gallons) | Available Nutrients (in year of application) $K_2O$ (lbs/1000 gallons) | Year 1 Value [3] ($/1000 gallons) | Year 2-4 Value [3] ($/1000 gallons) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aerobic | 3.5 | 5.3 | 6.8 | 7.9 | 15.8 | 2.8 | 19 | 11 | 0.142 | 0.0209 | 0.086 | 0.026 | 61 |
| Anaerobic | 3.9 | 10.1 | 17.2 | 7.5 | 15.1 | 13.4 | 40 | 12 | 0.273 | 0.095 | 0.082 | 0.124 | 55 |

## Canadian Food Inspection Agency (CFIA) Registered/Listed Fertilizers using processed Sewage Biosolids [8]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/1000 gallons) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/1000 gallons) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/1000 gallons) | Available Nutrients (in year of application) $K_2O$ (lbs/1000 gallons) | Year 1 Value [3] ($/1000 gallons) | Year 2-4 Value [3] ($/1000 gallons) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lystegro | 9.8 | 19.4 | 27.8 | 27.7 | 55.4 | 54.9 | 59 | 12 | 0.525 | 0.2165 | 0.301 | 0.508 | 15 |

The micronutrient and organic matter values are not reflected in these tables.

# Liquid Manure – Available Nutrients and Value for Manure from Various Livestock Types – Metric Units

## Swine

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied ($kg/m^3$) | Available Nutrients (in year of application) Useable N [1] Spring Applied ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term ($kg/m^3$) | Available Nutrients (in year of application) $K_2O$ ($kg/m^3$) | Year 1 Value [3] ($/m^3) | Year 2-4 Value [3] ($/m^3) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 3.2 | 1.4 | 2.5 | 1.0 | 2.0 | 2.0 | 9.9 | 2.9 | 0.372 | 0.2452 | 0.107 | 0.187 | 3558 |
| 10-18% DM | 12.3 | 3.1 | 4.6 | 3.0 | 6.0 | 3.7 | 22.2 | 8.7 | 0.813 | 0.4634 | 0.328 | 0.338 | 94 |
| 6-10% DM | 7.8 | 2.5 | 4.1 | 2.2 | 4.3 | 3.2 | 17.8 | 6.3 | 0.664 | 0.4054 | 0.236 | 0.297 | 358 |
| 4-6% DM | 4.9 | 2.0 | 3.5 | 1.5 | 2.9 | 2.7 | 13.8 | 4.3 | 0.526 | 0.3330 | 0.159 | 0.251 | 573 |
| 2-4% DM | 2.9 | 1.4 | 2.5 | 1.0 | 2.0 | 2.0 | 9.8 | 2.9 | 0.366 | 0.2433 | 0.106 | 0.188 | 1165 |
| 0-2% DM | 1.2 | 0.8 | 1.5 | 0.4 | 0.7 | 1.4 | 5.5 | 1.1 | 0.214 | 0.1600 | 0.040 | 0.125 | 1251 |
| Nursery | 3.0 | 1.2 | 2.1 | 1.0 | 1.9 | 1.9 | 9.0 | 2.8 | 0.32 | 0.2005 | 0.104 | 0.175 | 67 |
| Farrowing sows | 1.7 | 0.9 | 1.6 | 0.6 | 1.1 | 1.2 | 5.8 | 1.6 | 0.231 | 0.1654 | 0.060 | 0.108 | 497 |
| Weaners | 1.9 | 0.8 | 1.5 | 1.1 | 2.1 | 2.5 | 9.3 | 2.9 | 0.221 | 0.1455 | 0.116 | 0.228 | 159 |
| Finishers | 4.7 | 1.9 | 3.2 | 1.3 | 2.6 | 2.9 | 13.4 | 3.8 | 0.494 | 0.3321 | 0.139 | 0.268 | 897 |
| Farrow to finish | 3.5 | 1.5 | 2.6 | 0.9 | 1.9 | 2.3 | 10.5 | 2.8 | 0.40 | 0.2717 | 0.102 | 0.210 | 179 |
| Dry sows and boars | 1.9 | 1.0 | 2.0 | 0.7 | 1.3 | 1.4 | 6.9 | 2.1 | 0.276 | 0.1700 | 0.072 | 0.127 | 204 |

## Dairy

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied ($kg/m^3$) | Available Nutrients (in year of application) Useable N [1] Spring Applied ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term ($kg/m^3$) | Available Nutrients (in year of application) $K_2O$ ($kg/m^3$) | Year 1 Value [3] ($/m^3) | Year 2-4 Value [3] ($/m^3) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 8.1 | 1.0 | 1.6 | 0.8 | 1.5 | 2.6 | 9.2 | 2.8 | 0.360 | 0.1492 | 0.082 | 0.240 | 3252 |
| Sandbedded [4] (3.2% sand) | 7.2 | 0.6 | 0.5 | 0.5 | 1.0 | 2.7 | 7.6 | 1.7 | 0.223 | 0.1119 | 0.053 | 0.246 | 51 |
| 10-18% DM | 14.0 | 1.4 | 2.0 | 1.2 | 2.4 | 3.3 | 12.7 | 4.5 | 0.516 | 0.1721 | 0.133 | 0.307 | 821 |
| 8-10% DM | 8.9 | 1.1 | 1.9 | 0.8 | 1.6 | 2.9 | 10.2 | 2.9 | 0.407 | 0.1881 | 0.087 | 0.268 | 561 |
| 6-8% DM | 7.1 | 0.9 | 1.6 | 0.6 | 1.2 | 2.5 | 8.6 | 2.3 | 0.339 | 0.1604 | 0.067 | 0.236 | 836 |
| 2-6% DM | 4.4 | 0.7 | 1.3 | 0.4 | 0.8 | 2.0 | 6.4 | 1.5 | 0.242 | 0.1222 | 0.042 | 0.187 | 861 |
| 0-2% DM | 1.2 | 0.3 | 0.8 | 0.2 | 0.4 | 1.2 | 3.5 | 0.7 | 0.117 | 0.0628 | 0.02 | 0.113 | 164 |

## Beef

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied ($kg/m^3$) | Available Nutrients (in year of application) Useable N [1] Spring Applied ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term ($kg/m^3$) | Available Nutrients (in year of application) $K_2O$ ($kg/m^3$) | Year 1 Value [3] ($/m^3) | Year 2-4 Value [3] ($/m^3) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 8.1 | 1.0 | 1.6 | 0.7 | 1.4 | 2.5 | 8.8 | 2.6 | 0.358 | 0.1572 | 0.078 | 0.228 | 244 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-18% DM | 14.6 | 1.4 | 2.0 | 1.3 | 2.6 | 3.7 | 13.6 | 4.7 | 0.528 | 0.1691 | 0.139 | 0.338 | 80 |
| 6-10% DM | 7.7 | 1.2 | 2.3 | 0.9 | 1.7 | 2.4 | 9.7 | 3.1 | 0.432 | 0.2151 | 0.095 | 0.225 | 58 |
| 2-6% DM | 4.1 | 0.7 | 1.4 | 0.5 | 1.0 | 1.8 | 6.3 | 1.7 | 0.249 | 0.1308 | 0.053 | 0.166 | 72 |
| 0-2%DM | 1.0 | 0.3 | 0.8 | 0.2 | 0.4 | 0.9 | 3.0 | 0.7 | 0.113 | 0.0598 | 0.023 | 0.087 | 31 |
| Cow-calf | 4.7 | 0.7 | 1.4 | 0.6 | 1.2 | 2.2 | 7.4 | 2.0 | 0.259 | 0.1259 | 0.063 | 0.208 | 9 |
| Finisher | 8.6 | 1.2 | 2.3 | 0.8 | 1.7 | 2.1 | 9.2 | 3.1 | 0.449 | 0.2054 | 0.092 | 0.198 | 25 |

## Sheep

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied ($kg/m^3$) | Available Nutrients (in year of application) Useable N [1] Spring Applied ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term ($kg/m^3$) | Available Nutrients (in year of application) $K_2O$ ($kg/m^3$) | Year 1 Value [3] ($/m^3$) | Year 2-4 Value [3] ($/m^3$) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 7.4 | 1.4 | 3.3 | 1.2 | 2.4 | 2.3 | 10.8 | 4.4 | 0.521 | 0.1904 | 0.130 | 0.212 | 7 |

## Poultry

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied ($kg/m^3$) | Available Nutrients (in year of application) Useable N [1] Spring Applied ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term ($kg/m^3$) | Available Nutrients (in year of application) $K_2O$ ($kg/m^3$) | Year 1 Value [3] ($/m^3$) | Year 2-4 Value [3] ($/m^3$) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers | 9.9 | 2.7 | 4.8 | 2.5 | 5.0 | 3.1 | 18.9 | 7.0 | 0.81 | 0.56 | 0.27 | 0.29 | 81 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pullets | 15.3 | 3.4 | 5.8 | 3.7 | 7.4 | 3.7 | 24.7 | 10.6 | 1.04 | 0.62 | 0.40 | 0.34 | 11 |

## Mink

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied ($kg/m^3$) | Available Nutrients (in year of application) Useable N [1] Spring Applied ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term ($kg/m^3$) | Available Nutrients (in year of application) $K_2O$ ($kg/m^3$) | Year 1 Value [3] ($/m^3$) | Year 2-4 Value [3] ($/m^3$) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| composite | 2.9 | 1.2 | 2.5 | 0.7 | 1.5 | 0.8 | 6.4 | 2.4 | 0.359 | 0.2168 | 0.08 | 0.075 | 31 |

## Washwater[5]/Runoff

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied ($kg/m^3$) | Available Nutrients (in year of application) Useable N [1] Spring Applied ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term ($kg/m^3$) | Available Nutrients (in year of application) $K_2O$ ($kg/m^3$) | Year 1 Value [3] ($/m^3$) | Year 2-4 Value [3] ($/m^3$) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 0.8 | 0.3 | 0.6 | 0.1 | 0.2 | 0.6 | 2.0 | 0.3 | 0.0937 | 0.0744 | 0.012 | 0.052 | 126 |

## Milk-fed veal

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied ($kg/m^3$) | Available Nutrients (in year of application) Useable N [1] Spring Applied ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term ($kg/m^3$) | Available Nutrients (in year of application) $K_2O$ ($kg/m^3$) | Year 1 Value [3] ($/m^3$) | Year 2-4 Value [3] ($/m^3$) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 2.2 | 0.4 | 0.8 | 0.2 | 0.5 | 1.9 | 5.1 | 0.9 | 0.148 | 0.0809 | 0.026 | 0.174 | 5 |

## Anaerobic Digestion Output[6]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied ($kg/m^3$) | Available Nutrients (in year of application) Useable N [1] Spring Applied ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate ($kg/m^3$) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term ($kg/m^3$) | Available Nutrients (in year of application) $K_2O$ ($kg/m^3$) | Year 1 Value [3] ($/m^3$) | Year 2-4 Value [3] ($/m^3$) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| composite | 4.2 | 1.7 | 2.9 | 0.7 | 1.4 | 1.8 | 9.4 | 2.6 | 0.4366 | 0.2386 | 0.078 | 0.164 | 86 |

## Sewage Biosolids [7]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N | Available Nutrients (in year of application) Useable N | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term | Available Nutrients (in year of application) $K_2O$ ($kg/m^3$) | Year 1 Value [3] ($/m^3$) | Year 2-4 Value [3] ($/m^3$) | Total Nutrient Content (as is basis) TKN | Total Nutrient Content (as is basis) $NH_4$-N | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | [1] Fall Applied (kg/m³) | [1] Spring Applied (kg/m³) | (kg/m³) | (kg/m³) | | | | (%) | (%) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aerobic | 3.5 | 0.5 | 0.7 | 0.8 | 1.6 | 0.3 | 3.8 | 2.4 | 0.142 | 0.0209 | 0.086 | 0.026 | 61 |
| Anaerobic | 3.9 | 1.0 | 1.7 | 0.8 | 1.5 | 1.3 | 7.0 | 2.6 | 0.273 | 0.095 | 0.082 | 0.124 | 55 |

## Canadian Food Inspection Agency (CFIA) Registered/Listed Fertilizers using processed Sewage Biosolids[8]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/m³) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/m³) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/m³) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/m³) | Available Nutrients (in year of application) $K_2O$ (kg/m³) | Year 1 Value [3] ($/m³) | Year 2-4 Value [3] ($/m³) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lystegro | 9.8 | 2.0 | 2.8 | 2.8 | 5.5 | 5.5 | 22.0 | 8.0 | 0.525 | 0.2165 | 0.301 | 0.508 | 15 |

The micronutrient and organic matter values are not reflected in these tables.

# Solid Manure - Available Nutrients and Value for Manure from Various Livestock Types – Imperial Units

## Swine

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 29.7 | 7.1 | 6.9 | 8.9 | 17.7 | 11.9 | 28 | 12 | 0.893 | 0.2648 | 0.482 | 0.553 | 104 |
| 18-30% DM | 23.9 | 7.0 | 8.4 | 8.6 | 17.3 | 11.3 | 27 | 12 | 0.881 | 0.2805 | 0.470 | 0.524 | 72 |
| 30-100% DM | 42.6 | 7.4 | 3.4 | 9.4 | 18.8 | 13.3 | 30 | 13 | 0.919 | 0.2297 | 0.511 | 0.618 | 32 |

## Dairy

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 27.3 | 4.4 | 4.7 | 3.6 | 7.1 | 13.0 | 20 | 6 | 0.714 | 0.1413 | 0.194 | 0.604 | 482 |
| Sandbedded [4] (27.8% sand) | 38.3 | 1.6 | 1.1 | 1.5 | 2.9 | 4.8 | 7.50 | 2 | 0.253 | 0.0968 | 0.079 | 0.221 | 57 |
| Compost Bedded Pack | 43.4 | 13.5 | 29.2 | 6.8 | 13.5 | 36.5 | 54 | 16 | 2.17 | 0.0100 | 0.367 | 1.692 | 23 |
| 18-30% DM | 21.8 | 4.1 | 5.5 | 3.4 | 6.9 | 12.7 | 19 | 6 | 0.666 | 0.1493 | 0.187 | 0.588 | 349 |
| 30-100% DM | 42.0 | 5.2 | 2.7 | 4.1 | 8.1 | 14.8 | 23 | 7 | 0.845 | 0.1168 | 0.221 | 0.683 | 133 |

## Beef

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 30.9 | 5.5 | 6.8 | 5.6 | 11.2 | 13.7 | 24 | 9 | 0.883 | 0.1616 | 0.303 | 0.634 | 1042 |
| 18-30% DM | 23.9 | 4.3 | 5.4 | 3.8 | 7.7 | 11.4 | 19 | 6 | 0.692 | 0.1313 | 0.208 | 0.530 | 596 |
| 30-40% DM | 34.3 | 6.1 | 7.6 | 6.3 | 12.6 | 15.3 | 27 | 10 | 0.981 | 0.1782 | 0.340 | 0.709 | 252 |
| 40-100% DM | 47.6 | 8.2 | 10.0 | 9.7 | 19.4 | 19.0 | 36 | 15 | 1.33 | 0.2319 | 0.527 | 0.879 | 189 |
| Cow-calf | 29.53 | 4.3 | 3.8 | 3.1 | 6.1 | 14.0 | 20 | 6 | 0.691 | 0.0889 | 0.167 | 0.646 | 24 |
| Finisher | 31.53 | 5.2 | 5.9 | 5.2 | 10.5 | 13.1 | 23 | 9 | 0.842 | 0.1326 | 0.284 | 0.608 | 76 |

## Sheep

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| composite | 32.8 | 5.5 | 5.8 | 5.8 | 11.6 | 18.4 | 28 | 9 | 0.883 | 0.2424 | 0.315 | 0.850 | 101 |

## Goats

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 35.4 | 6.4 | 8.1 | 5.4 | 10.7 | 23.6 | 33 | 9 | 1.031 | 0.2058 | 0.291 | 1.093 | 81 |

## Manure Compost

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N | Available Nutrients (in year of application) Useable N | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | [1] Fall Applied (lbs/ton) | [1] Spring Applied (lbs/ton) | (lbs/ton) | (lbs/ton) | | | | (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cured[9] | 46.2 | 6.5 | 1.1 | 4.3 | 8.6 | 9.4 | 20 | 8 | 0.811 | 0.0094 | 0.234 | 0.435 | 106 |
| Immature[9] | 53.7 | 13.7 | 15.6 | 9.8 | 19.7 | 19.2 | 43 | 17 | 1.716 | 0.2430 | 0.534 | 0.890 | 120 |

## Spent Mushroom Substrate

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 34.3 | 6.2 | 4.1 | 5.8 | 11.5 | 11.3 | 23 | 9 | 0.777 | 0.0568 | 0.313 | 0.524 | 33 |

## Grain-Fed Veal

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 31.7 | 5.0 | 5.2 | 3.5 | 7.1 | 10.7 | 19 | 7 | 0.812 | 0.1421 | 0.192 | 0.497 | 30 |

## Horses[10]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 38.1 | 3.2 | 1.0 | 2.8 | 5.6 | 9.8 | 15 | 5 | 0.511 | 0.0666 | 0.151 | 0.454 | 51 |
| <50% DM | 34.9 | 2.9 | 1.0 | 2.7 | 5.4 | 8.4 | 13.50 | 5 | 0.468 | 0.0688 | 0.147 | 0.39 | 45 |
| >50% DM | 61.9 | 5.3 | 0 | 4.1 | 8.2 | 20.9 | 28 | 8 | 0.848 | 0.0521 | 0.224 | 0.967 | 6 |

## Poultry

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 58.6 | 27.9 | 30.8 | 22.3 | 44.6 | 30.6 | 84 | 33 | 2.63 | 0.5373 | 1.213 | 1.415 | 2357 |
| 80+% DM | 88.4 | 44.5 | 53.1 | 29.3 | 53.1 | 43.8 | 123 | 47 | 4.199 | 0.4172 | 1.595 | 2.026 | 318 |
| 70-80% DM | 74.3 | 33.2 | 36.1 | 24.4 | 48.9 | 35.1 | 96 | 37 | 3.13 | 0.4757 | 1.328 | 1.623 | 507 |
| 60-70% DM | 65.2 | 28.6 | 30.4 | 22.5 | 44.9 | 34.4 | 92 | 35 | 2.701 | 0.4805 | 1.221 | 1.591 | 462 |
| 50-60% DM | 55.0 | 24.6 | 26.0 | 25.5 | 50.9 | 29.9 | 82 | 35 | 2.32 | 0.5055 | 1.384 | 1.383 | 336 |
| 40-50% DM | 44.9 | 21.7 | 23.3 | 22.4 | 44.8 | 28.6 | 74 | 30 | 2.047 | 0.6061 | 1.217 | 1.322 | 213 |
| 30-40% DM | 34.5 | 18.1 | 19.7 | 16.6 | 33.2 | 20.0 | 57 | 22 | 1.707 | 0.6315 | 0.902 | 0.928 | 274 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18-30% DM | 24.9 | 16.9 | 20.0 | 12.6 | 25.3 | 14.9 | 47 | 17 | 1.595 | 0.7704 | 0.687 | 0.690 | 285 |
| Layers | 40.9 | 26.4 | 32.8 | 17.8 | 35.5 | 22.3 | 70 | 26 | 2.49 | 0.7391 | 0.966 | 1.033 | 380 |
| Pullets | 46.7 | 29.8 | 38.2 | 23.0 | 46.1 | 27.8 | 85 | 34 | 2.814 | 0.5767 | 1.252 | 1.288 | 131 |
| Broilers | 62.8 | 30.2 | 34.0 | 20.6 | 41.2 | 36.1 | 89 | 32 | 2.85 | 0.5046 | 1.12 | 1.67 | 467 |
| Broilers-Breeders | 58.6 | 20.9 | 18.6 | 26.5 | 53.0 | 31.7 | 80 | 35 | 1.972 | 0.3500 | 1.439 | 1.466 | 163 |

## Turkeys

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 52.2 | 22.2 | 22.6 | 13.6 | 27.2 | 22.2 | 45 | 17 | 2.0948 | 0.4553 | 0.739 | 1.028 | 681 |
| 60+ % DM | 74.7 | 21.2 | 14.2 | 11.1 | 22.2 | 20.0 | 55 | 19 | 2.00 | 0.2900 | 0.604 | 0.924 | 158 |
| 50-60 % DM | 54.4 | 26.3 | 29.6 | 13.9 | 27.8 | 25.0 | 68 | 23 | 2.4784 | 0.4481 | 0.755 | 1.156 | 97 |
| 40-50 % DM | 44.8 | 21.7 | 24.4 | 11.3 | 22.6 | 20.8 | 56 | 19 | 2.044 | 0.3865 | 0.613 | 0.962 | 188 |
| 18-40 % DM | 36.1 | 18.1 | 20.2 | 11.2 | 22.3 | 18.6 | 50 | 17 | 1.708 | 0.4505 | 0.606 | 0.859 | 137 |
| Toms | 51.9 | 27.3 | 30.5 | 24.1 | 48.2 | 34.4 | 88 | 33 | 2.574 | 0.8225 | 1.31 | 1.591 | 36 |
| Poults | 75.8 | 37.8 | 44.5 | 22.7 | 45.4 | 32.6 | 98 | 37.50 | 3.562 | 0.4075 | 1.234 | 1.509 | 4 |
| Breeders (Toms/Hens) | 52.6 | 21.6 | 20.2 | 19.5 | 39.0 | 25.1 | 68 | 26.50 | 2.035 | 0.6846 | 1.060 | 1.163 | 50 |
| Broilers Growers | 61.8 | 35.5 | 43.9 | 22.3 | 44.5 | 30.7 | 93 | 35 | 3.35 | 0.60 | 1.21 | 1.42 | 6 |
| Growers | 61.0 | 35.1 | 44.3 | 20.9 | 41.8 | 30.3 | 91 | 34.50 | 3.312 | 0.4149 | 1.136 | 1.403 | 13 |

## Mink

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| composite | 45.8 | 34.8 | 43.6 | 33.5 | 67.0 | 17.1 | 93 | 46 | 3.28 | 1.42 | 1.82 | 0.79 | 104 |

## Anaerobic Digestion Output[6]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 48.78 | 12.6 | 14.7 | 22.7 | 45.4 | 7.1 | 46 | 30 | 1.577 | 0.1986 | 1.234 | 0.327 | 9 |

## Sewage Biosolids[7]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N | Available Nutrients (in year of application) Useable N | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | [1] Fall Applied (lbs/ton) | [1] Spring Applied (lbs/ton) | (lbs/ton) | (lbs/ton) | | | | (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 32.1 | | 61.5 | 24.1 | | 2.4 | 34.6 | 22.4 | 3.76 | 0.64 | 1.31 | 0.11 | 89 |
| Aerobic or anaerobic composite | 31.4 | 26.1 | 52.4 | 21.7 | 43.5 | 2.1 | 57 | 35 | 3.2664 | 0.5476 | 1.182 | 0.097 | 105 |

## Canadian Food Inspection Agency (CFIA) Registered/Listed Fertilizers using processed Sewage Biosolids[8]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pellets | 91.0 | 33.7 | 53.2 | 42.2 | 84.4 | 5.1 | 91 | 62 | 4.2074 | 0.2591 | 2.294 | 0.235 | 12 |
| N-Rich/N-Viro (lime)[10] | 58.61 | 5.2 | 0.4 | 10.5 | 21.0 | 43.0 | 53 | 14 | 0.65 | 0.0264 | 0.57 | 1.99 | 3 |

The micronutrient and organic matter values are not reflected in these tables.

# Solid Manure - Available Nutrients and Value for Manure from Various Livestock Types – Metric Units

## Swine

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 29.7 | 3.6 | 3.4 | 4.4 | 8.9 | 6.0 | 31.1 | 13.4 | 0.893 | 0.2648 | 0.482 | 0.553 | 104 |
| 18-30% DM | 23.9 | 3.5 | 4.2 | 4.3 | 8.6 | 5.7 | 30.1 | 13.0 | 0.881 | 0.2805 | 0.470 | 0.524 | 72 |
| 30-100% DM | 42.6 | 3.7 | 1.7 | 4.7 | 9.4 | 6.7 | 33.3 | 14.3 | 0.919 | 0.2297 | 0.511 | 0.618 | 32 |

## Dairy

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied | Available Nutrients (in year of application) Useable N [1] Spring Applied | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | (kg/Tonne) | (kg/Tonne) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 27.3 | 2.2 | 2.3 | 1.8 | 3.6 | 6.5 | 22.2 | 6.9 | 0.714 | 0.1413 | 0.194 | 0.604 | 482 |
| Sandbedded [4] (27.8% sand) | 38.3 | 0.8 | 0 | 0.7 | 1.5 | 2.4 | 8.2 | 2.4 | 0.253 | 0.0968 | 0.079 | 0.221 | 57 |
| Compost Bedded Pack | 43.4 | 6.7 | 14.6 | 3.4 | 6.8 | 18.3 | 59.7 | 18.0 | 2.17 | 0.0100 | 0.367 | 1.692 | 23 |
| 18-30% DM | 21.8 | 2.1 | 2.7 | 1.7 | 3.4 | 6.4 | 21.3 | 6.4 | 0.666 | 0.1493 | 0.187 | 0.588 | 349 |
| 30-100% DM | 42.0 | 2.6 | 1.3 | 2.0 | 4.1 | 7.4 | 25.4 | 8.2 | 0.845 | 0.1168 | 0.221 | 0.683 | 133 |

## Beef

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 30.9 | 2.7 | 3.4 | 2.8 | 5.6 | 6.8 | 26.6 | 9.9 | 0.883 | 0.1616 | 0.303 | 0.634 | 1042 |
| 18-30% DM | 23.9 | 2.1 | 2.7 | 1.9 | 3.8 | 5.7 | 20.8 | 7.1 | 0.692 | 0.1313 | 0.208 | 0.530 | 596 |
| 30-40% DM | 34.3 | 3.0 | 3.8 | 3.1 | 6.3 | 7.7 | 29.7 | 11.1 | 0.981 | 0.1782 | 0.340 | 0.709 | 252 |
| 40-100% DM | 47.6 | 4.1 | 5.0 | 4.8 | 9.7 | 9.5 | 40.0 | 16.5 | 1.33 | 0.2319 | 0.527 | 0.879 | 189 |
| Cow-calf | 29.53 | 2.1 | 1.9 | 1.5 | 3.1 | 7.0 | 22.2 | 6.4 | 0.691 | 0.0889 | 0.167 | 0.646 | 24 |
| Finisher | 31.53 | 2.6 | 3.0 | 2.6 | 5.2 | 6.6 | 25.3 | 9.4 | 0.842 | 0.1326 | 0.284 | 0.608 | 76 |

## Sheep

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| composite | 32.8 | 2.7 | 2.9 | 2.9 | 5.8 | 9.2 | 31.1 | 9.8 | 0.883 | 0.2424 | 0.315 | 0.850 | 101 |

## Goats

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 35.4 | 3.2 | 4.0 | 2.7 | 5.4 | 11.8 | 36.6 | 10.1 | 1.031 | 0.2058 | 0.291 | 1.093 | 81 |

## Manure Compost

| Dry Matter (DM) Range | Average Dry Matter | Available Nutrients (in year of application) Useable N | Available Nutrients (in year of application) Useable N | Available Nutrients (in year of application) | Available Nutrients (in year of application) | Available Nutrients (in year of | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is | Total Nutrient Content (as is | Total Nutrient Content | Total Nutrient Content | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | (DM)/Total Solids (%) | [1] Fall Applied (kg/Tonne) | [1] Spring Applied (kg/Tonne) | $P_2O_5$ [2] Immediate (kg/Tonne) | $P_2O_5$ [2] Long Term (kg/Tonne) | application) $K_2O$ (kg/Tonne) | | | basis) TKN (%) | basis) $NH_4$-N (%) | (as is basis) P (%) | (as is basis) K (%) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cured[9] | 46.2 | 3.2 | 0.6 | 2.2 | 4.3 | 4.7 | 22.5 | 8.8 | 0.811 | 0.0094 | 0.234 | 0.435 | 106 |
| Immature[9] | 53.7 | 6.9 | 7.8 | 4.9 | 9.8 | 9.6 | 47.9 | 18.4 | 1.716 | 0.2430 | 0.534 | 0.890 | 120 |

## Spent Mushroom Substrate

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 34.3 | 3.1 | 2.0 | 2.9 | 5.8 | 5.7 | 25.6 | 10.1 | 0.777 | 0.0568 | 0.313 | 0.524 | 33 |

## Grain-Fed Veal

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 31.7 | 2.5 | 2.6 | 1.8 | 3.5 | 5.4 | 20.8 | 7.3 | 0.812 | 0.1421 | 0.192 | 0.497 | 30 |

## Horses[10]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 38.1 | 1.6 | 0.5 | 1.4 | 2.8 | 4.9 | 16.6 | 5.3 | 0.511 | 0.0666 | 0.151 | 0.454 | 51 |
| <50% DM | 34.9 | 1.5 | 0.5 | 1.4 | 2.7 | 4.2 | 14.8 | 5.0 | 0.468 | 0.0688 | 0.147 | 0.39 | 45 |
| >50% DM | 61.9 | 2.6 | 0 | 2.1 | 4.1 | 10.4 | 31.1 | 8.5 | 0.848 | 0.0521 | 0.224 | 0.967 | 6 |

## Poultry

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 58.6 | 13.9 | 15.4 | 11.2 | 22.3 | 15.3 | 92.2 | 36.0 | 2.63 | 0.5373 | 1.213 | 1.415 | 2357 |
| 80+% DM | 88.4 | 22.3 | 26.6 | 14.7 | 29.3 | 21.9 | 135.2 | 52.1 | 4.199 | 0.4172 | 1.595 | 2.026 | 318 |
| 70-80% DM | 74.3 | 16.6 | 18.0 | 12.2 | 24.4 | 17.5 | 106.0 | 41.1 | 3.13 | 0.4757 | 1.328 | 1.623 | 507 |
| 60-70% DM | 65.2 | 14.3 | 15.2 | 11.2 | 22.5 | 17.2 | 96.9 | 36.8 | 2.701 | 0.4805 | 1.221 | 1.591 | 462 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50-60% DM | 55.0 | 12.3 | 13.0 | 12.7 | 25.5 | 14.9 | 90.8 | 38.4 | 2.32 | 0.5055 | 1.384 | 1.383 | 336 |
| 40-50% DM | 44.9 | 10.8 | 11.6 | 11.2 | 22.4 | 14.3 | 82.1 | 33.1 | 2.047 | 0.6061 | 1.217 | 1.322 | 213 |
| 30-40% DM | 34.5 | 9.0 | 9.9 | 8.3 | 16.6 | 10.0 | 62.5 | 24.6 | 1.707 | 0.6315 | 0.902 | 0.928 | 274 |
| 18-30% DM | 24.9 | 8.5 | 10.0 | 6.3 | 12.6 | 7.5 | 51.5 | 18.7 | 1.595 | 0.7704 | 0.687 | 0.690 | 285 |
| Layers | 40.9 | 13.2 | 16.4 | 8.9 | 17.8 | 11.2 | 77.3 | 29.1 | 2.49 | 0.7391 | 0.966 | 1.033 | 380 |
| Pullets | 46.7 | 14.9 | 19.1 | 11.5 | 23.0 | 13.9 | 93.2 | 37.5 | 2.814 | 0.5767 | 1.252 | 1.288 | 131 |
| Broilers | 62.8 | 15.1 | 17.0 | 10.3 | 20.6 | 18.0 | 98.4 | 35.2 | 2.85 | 0.5046 | 1.12 | 1.67 | 467 |
| Broilers-Breeders | 58.6 | 10.5 | 9.3 | 13.2 | 26.5 | 15.8 | 88.6 | 38.7 | 1.972 | 0.3500 | 1.439 | 1.466 | 163 |

## Turkeys

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 52.2 | 11.1 | 11.3 | 6.8 | 13.6 | 11.1 | 66.6 | 23.6 | 2.0948 | 0.4553 | 0.739 | 1.028 | 681 |
| 60+ % DM | 74.7 | 10.6 | 7.1 | 5.6 | 11.1 | 10.0 | 60.2 | 21.0 | 2.00 | 0.2900 | 0.604 | 0.924 | 158 |
| 50-60 % DM | 54.4 | 13.1 | 14.8 | 6.9 | 13.9 | 12.5 | 75.0 | 25.8 | 2.4784 | 0.4481 | 0.755 | 1.156 | 97 |
| 40-50 % DM | 44.8 | 10.8 | 12.2 | 5.6 | 11.3 | 10.4 | 61.8 | 21.0 | 2.044 | 0.3865 | 0.613 | 0.962 | 188 |
| 18-40 % DM | 36.1 | 9.1 | 10.1 | 5.6 | 11.2 | 9.3 | 54.8 | 19.0 | 1.708 | 0.4505 | 0.606 | 0.859 | 137 |
| Toms | 51.9 | 13.6 | 15.2 | 12.1 | 24.1 | 17.2 | 97.0 | 36.5 | 2.574 | 0.8225 | 1.31 | 1.591 | 36 |
| Poults | 75.8 | 18.9 | 22.3 | 11.4 | 22.7 | 16.3 | 108.0 | 41.4 | 3.562 | 0.4075 | 1.234 | 1.509 | 4 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Breeders (Toms/Hens) | 52.6 | 10.8 | 10.1 | 9.8 | 19.5 | 12.6 | 75.3 | 29.3 | 2.035 | 0.6846 | 1.060 | 1.163 | 50 |
| Broilers Growers | 61.8 | 17.8 | 21.9 | 11.1 | 22.3 | 15.3 | 102.6 | 39.0 | 3.35 | 0.60 | 1.21 | 1.42 | 6 |
| Growers | 61.0 | 17.6 | 22.2 | 10.5 | 20.9 | 15.2 | 100.1 | 38.1 | 3.312 | 0.4149 | 1.136 | 1.403 | 13 |

## Mink

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| composite | 45.8 | 17.4 | 21.8 | 16.7 | 33.5 | 8.5 | 102.4 | 48.1 | 3.28 | 1.42 | 1.82 | 0.79 | 104 |

## Anaerobic Digestion Output[6]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 48.78 | 6.3 | 7.3 | 11.4 | 22.7 | 3.5 | 50.4 | 33.2 | 1.577 | 0.1986 | 1.234 | 0.327 | 9 |

## Sewage Biosolids[7]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite | 32.1 | 15.0 | 30.8 | 12.1 | 24.1 | 1.2 | 71.5 | 42.9 | 3.76 | 0.64 | 1.31 | 0.11 | 89 |
| Aerobic or anaerobic composite | 31.4 | 13.1 | 26.2 | 10.9 | 21.7 | 1.0 | 63.1 | 38.2 | 3.2664 | 0.5476 | 1.182 | 0.097 | 105 |

## Canadian Food Inspection Agency (CFIA) Registered/Listed Fertilizers using processed Sewage Biosolids[8]

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pellets | 91.0 | 16.8 | 26.6 | 21.1 | 42.2 | 2.5 | 100.2 | 68.1 | 4.2074 | 0.2591 | 2.294 | 0.235 | 12 |
| N-Rich/N-Viro (lime)[10] | 58.61 | 2.6 | 0 | 5.2 | 10.5 | 21.5 | 58.8 | 15.3 | 0.65 | 0.0264 | 0.57 | 1.99 | 3 |

The micronutrient and organic matter values are not reflected in these tables.

## Other Livestock - Available Nutrients and Value for Manure from Other Livestock Types – Imperial Units

| Animal Type | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (lbs/ton) | Available Nutrients (in year of application) Useable N [1] Spring Applied (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (lbs/ton) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (lbs/ton) | Available Nutrients (in year of application) $K_2O$ (lbs/ton) | Year 1 Value [3] ($/ton) | Year 2-4 Value [3] ($/ton) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (ppm) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bison | 21.1 | 2.5 | 1.0 | 2.6 | 1.3 | 1.5 | 5.7 | 2.9 | 0.40 | 320 | 0.032 | 0.07 | 0.07 | 7 |
| Elk | 30.5 | 4.5 | 4.4 | 7.4 | 3.7 | 5.2 | 13.8 | 6.7 | 0.73 | 620 | 0.060 | 0.20 | 0.24 | 13 |
| Red Deer | 25.0 | 3.8 | 2.2 | 6.3 | 3.1 | 4.3 | 11.7 | 5.7 | 0.62 | 514 | 0.051 | 0.17 | 0.20 | 6 |
| White-Tailed Deer | 31.1 | 7.9 | 16.9 | 15.8 | 7.9 | 7.6 | 24.5 | 13.5 | 1.27 | 784 | 0.078 | 0.43 | 0.35 | 6 |
| Fallow Deer | 29.4 | 5.4 | 6.9 | 12.9 | 6.4 | 7.6 | 19.8 | 10.2 | 0.87 | 680 | 0.068 | 0.35 | 0.35 | 6 |
| Llama | 34.9 | 4.7 | 5.1 | 12.9 | 6.4 | 5.4 | 17.1 | 9.8 | 0.75 | 558 | 0.056 | 0.35 | 0.25 | 16 |
| Alpaca | 27.1 | 4.1 | 1.4 | 14.7 | 7.4 | 5.0 | 17.0 | 10.3 | 0.66 | 867 | 0.087 | 0.40 | 0.23 | 11 |
| Wild boar | 29.8 | 5.8 | 5.3 | 12.1 | 6.1 | 7.6 | 19.9 | 9.2 | 0.72 | 623 | 0.062 | 0.33 | 0.35 | 6 |
| Chinchilla | 65.7 | 11.6 | 25.9 | 22.8 | 11.4 | 21.6 | 44.5 | 18.5 | 1.87 | 3642 | 0.364 | 0.62 | 1.00 | 7 |
| Rabbit | 44.7 | 7.4 | 2.0 | 31.3 | 15.6 | 12.1 | 36.0 | 21.2 | 1.20 | 1280 | 0.128 | 0.85 | 0.56 | 17 |
| Fox | 35.4 | 19.1 | 19.0 | 55.6 | 27.8 | 8.2 | 60.1 | 35.2 | 1.80 | 4856 | 0.486 | 1.51 | 0.38 | 9 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mink – composite | 45.8 | 34.8 | 43.6 | 67.0 | 33.5 | 17.1 | 92.9 | 43.6 | 3.28 | 14151 | 1.415 | 1.82 | 0.79 | 104 |
| Mink – kittens | 50.0 | 44.1 | 57.7 | 70.3 | 35.1 | 19.0 | 107.8 | 47.3 | 4.16 | 18363 | 1.836 | 1.91 | 0.88 | 16 |
| Mink – adults | 44.2 | 46.2 | 63.1 | 89.4 | 44.7 | 23.5 | 124.4 | 58.0 | 4.36 | 19337 | 1.934 | 2.43 | 1.09 | 61 |
| Mink – composted carcasses | 45.9 | 6.3 | 0.3 | 20.6 | 10.3 | 5.6 | 23.5 | 13.8 | 0.79 | 1149 | 0.115 | 0.56 | 0.26 | 7 |
| Mink – females & kits | 41.7 | 42.3 | 57.4 | 75.4 | 37.7 | 19.4 | 108.7 | 49.6 | 3.99 | 17727 | 1.773 | 2.05 | 0.90 | 14 |
| Pheasants | 66.3 | 26.1 | 26.7 | 29.8 | 14.9 | 17.9 | 63.0 | 25.5 | 2.46 | 1758 | 0.176 | 0.81 | 0.83 | 19 |
| Partridge | 71.9 | 42.5 | 54.4 | 46.7 | 23.4 | 24.6 | 97.9 | 39.8 | 4.01 | 4705 | 0.471 | 1.27 | 1.14 | 8 |
| Quail | 59.6 | 52.6 | 78.1 | 39.7 | 19.9 | 23.1 | 105.3 | 40.6 | 4.96 | 3384 | 0.338 | 1.08 | 1.07 | 8 |
| Squab (pigeon) | 57.7 | 34.5 | 43.8 | 34.6 | 17.3 | 24.6 | 81.5 | 30.1 | 3.25 | 4826 | 0.483 | 0.94 | 1.14 | 13 |
| Duck | 38.1 | 11.2 | 7.2 | 14.8 | 7.4 | 10.7 | 30.6 | 11.0 | 1.06 | 3260 | 0.326 | 0.40 | 0.49 | 15 |
| Ostrich | 40.8 | 7.2 | 0.0 | 19.9 | 9.9 | 7.1 | 25.4 | 13.2 | 0.68 | 633 | 0.063 | 0.54 | 0.33 | 7 |
| Emu | 25.9 | 10.7 | 10.5 | 10.7 | 5.3 | 6.9 | 24.7 | 8.9 | 1.01 | 2516 | 0.252 | 0.29 | 0.32 | 9 |
| Rhea | 28.7 | 8.9 | 6.5 | 19.9 | 9.9 | 7.6 | 27.9 | 13.4 | 0.84 | 1837 | 0.184 | 0.54 | 0.35 | 3 |

The micronutrient and organic matter values are not reflected in these tables.

# Other Livestock - Available Nutrients and Value for Manure from Other Livestock Types – Metric Units

| Dry Matter (DM) Range | Average Dry Matter (DM)/Total Solids (%) | Available Nutrients (in year of application) Useable N [1] Fall Applied (kg/Tonne) | Available Nutrients (in year of application) Useable N [1] Spring Applied (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Immediate (kg/Tonne) | Available Nutrients (in year of application) $P_2O_5$ [2] Long Term (kg/Tonne) | Available Nutrients (in year of application) $K_2O$ (kg/Tonne) | Year 1 Value [3] ($/Tonne) | Year 2-4 Value [3] ($/Tonne) | Total Nutrient Content (as is basis) TKN (%) | Total Nutrient Content (as is basis) $NH_4$-N (ppm) | Total Nutrient Content (as is basis) $NH_4$-N (%) | Total Nutrient Content (as is basis) P (%) | Total Nutrient Content (as is basis) K (%) | # Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bison | 21.1 | 1.6 | 0.5 | 1.3 | 0.6 | 0.8 | 7.3 | 3.2 | 0.40 | 320 | 0.032 | 0.07 | 0.07 | 7 |
| Elk | 30.5 | 2.3 | 2.2 | 3.7 | 1.8 | 2.6 | 15.2 | 7.4 | 0.73 | 620 | 0.060 | 0.20 | 0.24 | 13 |
| Red Deer | 25.0 | 1.9 | 2.0 | 3.1 | 1.6 | 2.2 | 12.9 | 6.3 | 0.62 | 514 | 0.051 | 0.17 | 0.20 | 6 |
| White-Tailed Deer | 31.1 | 3.9 | 7.4 | 7.9 | 4.0 | 3.8 | 26.9 | 14.8 | 1.27 | 784 | 0.078 | 0.43 | 0.35 | 6 |
| Fallow Deer | 29.4 | 2.7 | 3.7 | 6.4 | 3.2 | 3.8 | 21.8 | 11.3 | 0.87 | 680 | 0.068 | 0.35 | 0.35 | 6 |
| Llama | 34.9 | 2.3 | 1.7 | 6.4 | 3.2 | 2.7 | 18.9 | 10.8 | 0.75 | 558 | 0.056 | 0.35 | 0.25 | 16 |
| Alpaca | 27.1 | 2.0 | 2.0 | 7.4 | 3.7 | 2.5 | 18.8 | 11.3 | 0.66 | 867 | 0.087 | 0.40 | 0.23 | 11 |
| Wild boar | 29.8 | 2.9 | 2.6 | 6.1 | 3.0 | 3.8 | 21.9 | 10.2 | 0.72 | 623 | 0.062 | 0.33 | 0.35 | 6 |
| Chinchilla | 65.7 | 5.8 | 7.1 | 11.4 | 5.7 | 10.8 | 49.0 | 20.4 | 1.87 | 3642 | 0.364 | 0.62 | 1.00 | 7 |
| Rabbit | 44.7 | 3.7 | 4.4 | 15.6 | 7.8 | 6.0 | 39.6 | 23.4 | 1.20 | 1280 | 0.128 | 0.85 | 0.56 | 17 |
| Fox | 35.4 | 9.5 | 11.0 | 27.8 | 13.9 | 4.1 | 66.2 | 38.4 | 1.80 | 4856 | 0.486 | 1.51 | 0.38 | 9 |
| Mink – composite | 45.8 | 17.4 | 21.8 | 33.5 | 16.7 | 8.5 | 102.3 | 48.1 | 3.28 | 14151 | 1.415 | 1.82 | 0.79 | 104 |
| Mink – kittens | 50.0 | 22.0 | 28.9 | 35.1 | 17.6 | 9.5 | 118.7 | 52.1 | 4.16 | 18363 | 1.836 | 1.91 | 0.88 | 16 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mink – adults | 44.2 | 23.1 | 31.6 | 44.7 | 22.4 | 11.8 | 137.0 | 63.9 | 4.36 | 19337 | 1.934 | 2.43 | 1.09 | 61 |
| Mink – composted carcasses | 45.9 | 3.2 | 0.1 | 10.3 | 5.2 | 2.8 | 25.9 | 15.3 | 0.79 | 1149 | 0.115 | 0.56 | 0.26 | 7 |
| Mink – females & kits | 41.7 | 21.1 | 28.7 | 37.7 | 18.9 | 9.7 | 119.7 | 54.7 | 3.99 | 17727 | 1.773 | 2.05 | 0.90 | 14 |
| Pheasants | 66.3 | 13.0 | 13.4 | 14.9 | 7.5 | 9.0 | 69.4 | 28.1 | 2.46 | 1758 | 0.176 | 0.81 | 0.83 | 19 |
| Partridge | 71.9 | 21.3 | 27.2 | 23.4 | 11.7 | 12.3 | 107.8 | 43.9 | 4.01 | 4705 | 0.471 | 1.27 | 1.14 | 8 |
| Quail | 59.6 | 26.3 | 39.1 | 19.9 | 9.9 | 11.6 | 116.0 | 44.8 | 4.96 | 3384 | 0.338 | 1.08 | 1.07 | 8 |
| Squab (pigeon) | 57.7 | 17.2 | 21.9 | 17.3 | 8.6 | 12.3 | 89.7 | 33.2 | 3.25 | 4826 | 0.483 | 0.94 | 1.14 | 13 |
| Duck | 38.1 | 5.6 | 3.6 | 7.4 | 3.7 | 5.3 | 33.8 | 12.1 | 1.06 | 3260 | 0.326 | 0.40 | 0.49 | 15 |
| Ostrich | 40.8 | 3.6 | 0.0 | 9.9 | 5.0 | 3.6 | 28.0 | 14.6 | 0.68 | 633 | 0.063 | 0.54 | 0.33 | 7 |
| Emu | 25.9 | 5.4 | 5.3 | 5.3 | 2.7 | 3.5 | 27.2 | 9.8 | 1.01 | 2516 | 0.252 | 0.29 | 0.32 | 9 |
| Rhea | 28.7 | 4.5 | 3.3 | 9.9 | 5.0 | 3.8 | 30.7 | 14.7 | 0.84 | 1837 | 0.184 | 0.54 | 0.35 | 3 |

The micronutrient and organic matter values are not reflected in these tables.

## Footnotes

(1) Assumes manure is incorporated within 24 hours and at a pH of 7.0.

(2) In the year of application, 40% of the phosphorus in manure is immediately available; an additional 40% is available when considering subsequent years (long term).

(3) Value is based on using fertilizer equivalent N-$P_2O_5$-$K_2O$ (December 2021 N=$2.72/kilogram; $P_2O_5$=$2.36/kilogram; and $K_2O$=$1.83/kilogram). Economic value is based on half of P available in year of application with remainder of the P and the organic N credits in subsequent years.

(4) For sandbedded dairy the percentage (%) sand is subtracted from the % dry matter (DM) for spring applied.

(5) Washwater values refer to manure-based washwaters generated from washing of livestock facilities only.

(6) Results from anaerobic digesters includes digesters that are approved through Environmental Compliance Approvals (ECAs) under the Environmental Protection Act or Nutrient Management Strategies under the Nutrient Management Act. None of the results are from systems accepting human sewage.

(7) These results are meant for general information and planning purposes only. An approved NASM Plan is required before NASM containing sewage biosolids can be land applied. In addition, sampling and analysis of the NASM is required per O. Reg. 267/03 prior to land application.

(8) Fertilizers registered/listed under the federal Fertilizers Act should be applied in accordance with label recommendations. Note that fertilizer labels provide a minimum guaranteed analysis and actual nutrient content may be higher.

(9) Cured and Immature are as described in the Agricultural Composting Basics Factsheet, Agdex# 720/400, with publication date 03/05 and last reviewed in January 2019.

(10)  Horse manure and N-Rich/N-Viro (organic lime) – only the ammonium N is calculated as available for composite and <50% DM.  Parties using N-Rich/N-Viro products should utilize the nutrient values available on product labels when establishing liming potential.