



GEOFFREY FAIRFOULL
 ADAS ENVIRONMENTAL GROUP
 11D MILTON PK
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K742

Please quote above code for all enquiries

WOODSTOCK BOWER FARM
 HAMLEY BROAD HEATH
 WORCESTERSHIRE
 WR15 3QN
 ELITE GROUND PRODUCTS

MANURE ANALYSIS RESULTS (Metric Units)

Sample Reference : HORSE MANURE

Sample Matrix : MANURE

The sample submitted was of adequate size to complete all analysis requested.

The sample will be kept as the dry ground sample for at least 1 month.

| Laboratory References | |
|-----------------------|-------|
| Report Number | 37580 |
| Sample Number | 34496 |

| | |
|---------------|-------------|
| Date Received | 09-JUN-2011 |
| Date Reported | 27-JUN-2011 |

ANALYTICAL RESULTS

| Determinand on a DM basis unless otherwise indicated | Units | Result | Amount per fresh tonne | Amount applied at an equivalent total Nitrogen application of... | | Units |
|--|-------|--------|---------------------------|---|-------------|-----------|
| | | | | 170 kg N/ha | 250 kg N/ha | |
| pH | | 6.65 | | | | |
| Dry Matter | % | 21.1 | 211.00 | 9827 | 14451 | kg DM |
| Total Nitrogen | % w/w | 1.73 | 3.65 | 170 | 250 | kg N |
| Ammonium Nitrogen | mg/kg | 499 | 0.11 | 4.90 | 7.21 | kg NH4-N |
| Nitrate Nitrogen | mg/kg | <0.1 | < 0.01 | | | kg NO3-N |
| Total Phosphorus (P) | % w/w | 0.478 | 2.31 | 107.56 | 158.18 | kg P2O5 |
| Total Potassium (K) | % w/w | 1.35 | 3.42 | 159.19 | 234.10 | kg K2O |
| Total Magnesium (Mg) | % w/w | 0.302 | 1.06 | 49.26 | 72.45 | kg MgO |
| Total Sulphur (S) | % w/w | 0.150 | 0.79 | 36.85 | 54.19 | kg SO3 |
| Total Copper (Cu) | mg/kg | 25.4 | 0.01 | 0.25 | 0.37 | kg Cu |
| Total Zinc (Zn) | mg/kg | 108 | 0.02 | 1.06 | 1.56 | kg Zn |
| Total Sodium (Na) | % w/w | 0.097 | 0.28 | 12.85 | 18.90 | kg Na2O |
| Total Calcium (Ca) | mg/kg | 5457 | 1.15 | 53.62 | 78.86 | kg Ca |
| Equivalent field application rate | | — | 1.00 | 46.57 | 68.49 | tonnes/ha |

The above equivalent field application rates for total nitrogen of 170 kg/ha and 250 kg/ha have been provided purely for guidance purposes only. Organic manures should be used in accordance with the Defra Code of Good Agricultural Practice and where required within the specific regulatory guidance for the spreading of that material to land. To get the most benefit from your organic manures it is recommended that you follow the principles as set out in Defra's Fertiliser Manual (RB209) or as directed by a FACTS qualified adviser.

Released by Dr R C Wilkinson

Date 27/06/11

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How does your sample analysis compare with the 'standard' figures for organic manures?

| Farmyard Manure | Dry Matter (% DM) | Total Nitrogen (Kg N/t) | Ammonium Nitrogen (Kg NH4-N/t) | Nitrate Nitrogen (Kg NO3-N/t) | Total Phosphate (Kg P2O5/t) | Total Potash (Kg K2O/t) | Total Sulphur (Kg SO3/t) | Total Magnesium (Kg MgO/t) |
|------------------------|----------------------|----------------------------|-----------------------------------|----------------------------------|--------------------------------|----------------------------|-----------------------------|-------------------------------|
| Cattle FYM - 'fresh' | 25 | 6.0 | 1.2 | 0.0 | 3.2 | 8.0 | 2.4 | 1.8 |
| Cattle FYM - 'old' | 25 | 6.0 | 0.5 | 0.1 | 3.2 | 8.0 | 2.4 | 1.8 |
| Pig FYM - 'fresh' | 25 | 7.0 | 1.8 | 0.0 | 6.0 | 8.0 | 3.4 | 1.8 |
| Pig FYM - 'old' | 25 | 7.0 | 0.9 | 0.1 | 6.0 | 8.0 | 3.4 | 1.8 |
| Sheep FYM - 'fresh' | 25 | 7.0 | 1.4 | 0.0 | 3.2 | 8.0 | 3.0 | 1.6 |
| Sheep FYM - 'old' | 25 | 7.0 | 0.6 | 0.1 | 3.2 | 8.0 | 3.0 | 1.6 |
| Duck FYM - 'fresh' | 25 | 6.5 | 1.6 | 0.0 | 5.5 | 7.5 | 2.6 | 1.2 |
| Duck FYM - 'old' | 25 | 6.5 | 0.9 | 0.1 | 5.5 | 7.5 | 2.6 | 1.2 |
| Horse FYM | 30 | 7.0 | 0.6 | 0.1 | 5.0 | 6.0 | ND | ND |
| Goat FYM | 25 | 6.0 | 0.5 | 0.1 | 3.2 | 8.0 | 2.4 | 1.8 |

Notes: ND = no data. The 'standard' phosphate & potash availability figures to the next crop grown from Defra's Fertiliser Manual are 60% & 90% respectively.

| Poultry Manure | Dry Matter (% DM) | Total Nitrogen (Kg N/t) | Ammonium Nitrogen (Kg NH4-N/t) | Uric Acid Nitrogen (Kg uric acid-N/t) | Nitrate Nitrogen (Kg NO3-N/t) | Total Phosphate (Kg P2O5/t) | Total Potash (Kg K2O/t) | Total Sulphur (Kg SO3/t) | Total Magnesium (Kg MgO/t) |
|-----------------------|----------------------|----------------------------|-----------------------------------|--|----------------------------------|--------------------------------|----------------------------|-----------------------------|-------------------------------|
| Layer manure | 35 | 19.0 | 5.6 | 3.7 | 0.2 | 14.0 | 9.5 | 4.0 | 2.6 |
| Broiler/turkey litter | 60 | 30.0 | 6.2 | 4.1 | 0.2 | 25.0 | 18.0 | 8.0 | 4.4 |

Notes: The 'standard' phosphate & potash availability figures to the next crop grown from Defra's Fertiliser Manual are 60% & 90% respectively.

| Cattle & Pig Slurries | Dry Matter (% DM) | Total Nitrogen (Kg N/m ³) | Ammonium Nitrogen (Kg NH4-N/m ³) | Total Phosphate (Kg P2O5/m ³) | Total Potash (Kg K2O/m ³) | Total Sulphur (Kg SO3/m ³) | Total Magnesium (Kg MgO/m ³) |
|----------------------------------|----------------------|--|---|--|--|---|---|
| Cattle slurry | 6 | 2.6 | 1.2 | 1.2 | 3.2 | 0.7 | 0.6 |
| Dirty water (from cattle) | 0.5 | 0.5 | 0.3 | 0.1 | 1.0 | 0.1 | 0.1 |
| Separated cattle slurries | | | | | | | |
| - strainer box liquid | 1.5 | 1.5 | 0.8 | 0.3 | 2.2 | ND | ND |
| - weeping wall liquid | 3 | 2.0 | 1.0 | 0.5 | 3.0 | ND | ND |
| - mechanically separated liquid | 4 | 3.0 | 1.5 | 1.2 | 3.5 | ND | ND |
| - solid portion after separation | 20 | 4.0* | 1.0* | 2.0* | 4.0* | ND | ND |
| Pig slurry | 4 | 3.6 | 2.5 | 1.8 | 2.4 | 1.0 | 0.7 |
| Separated pig slurry - liquid | 3 | 3.6 | 2.2 | 1.6 | 2.4 | ND | ND |
| Separated pig slurry - solid | 20 | 5.0* | 1.3* | 4.6* | 2.2* | ND | ND |

Notes: * These values are kg per tonne. ND = no data.

The 'standard' phosphate & potash availability figures to the next crop grown from Defra's Fertiliser Manual are 50% & 90% respectively (50% & 100% for dirty water).

| Biosolids | Dry Matter (% DM) | Total Nitrogen (Kg N/t) | Ammonium Nitrogen (Kg NH4-N/t) | Total Phosphate (Kg P2O5/t) | Total Potash (Kg K2O/t) | Total Sulphur (Kg SO3/t) | Total Magnesium (Kg MgO/t) |
|------------------|----------------------|----------------------------|-----------------------------------|--------------------------------|----------------------------|-----------------------------|-------------------------------|
| Digested liquid | 4 | 2.0* | 0.8* | 3.0* | 0.1* | 1.0* | 0.3* |
| Digested cake | 25 | 11.0 | 1.6 | 18.0 | 0.6 | 6.0 | 1.6 |
| Thermally dried | 95 | 40.0 | 2.0 | 70.0 | 2.0 | 23.0 | 6.0 |
| Lime stabilised | 40 | 8.5 | 0.9 | 26.0 | 0.8 | 8.5 | 2.4 |
| Composted | 60 | 11.0 | 0.6 | 6.0 | 3.0 | 2.6 | 2.0 |

Notes: * These values are kg per m³. The 'standard' phosphate & potash availability figures to the next crop grown from Defra's Fertiliser Manual are 50% & 90% respectively.

| Other Organic Manures | Dry Matter (% DM) | Total Nitrogen (Kg N/t) | Ammonium Nitrogen (Kg NH4-N/t) | Total Phosphate (Kg P2O5/t) | Total Potash (Kg K2O/t) | Total Sulphur (Kg SO3/t) | Total Magnesium (Kg MgO/t) |
|---------------------------------|----------------------|----------------------------|-----------------------------------|--------------------------------|----------------------------|-----------------------------|-------------------------------|
| Composts | | | | | | | |
| Green compost | 60 | 7.5 | 0.1 | 3.0 | 5.5 | 2.6 | 3.4 |
| Green/food compost | 60 | 11.0 | 0.6 | 3.8 | 8.0 | 3.4 | 3.4 |
| Mushroom compost | 35 | 6.0 | 0.2 | 5.0 | 9.0 | ND | ND |
| Paper Crumble | | | | | | | |
| Chemically / physically treated | 40 | 2.0 | 0.2 | 0.4 | 0.2 | 0.6 | 1.4 |
| Biologically treated | 30 | 7.5 | 0.8 | 3.8 | 0.4 | 2.4 | 1.0 |
| Water Treatment Cake | | | | | | | |
| Water treatment cake | 25 | 2.4 | 0.1 | 3.4 | 0.4 | 5.5 | 0.8 |
| Food industry 'wastes' | | | | | | | |
| Dairy waste | 4 | 1.0 | 0.1 | 0.8 | 0.2 | ND | ND |
| Soft drinks waste | 4 | 0.3 | ND | 0.2 | Trace | ND | ND |
| Brewing waste | 7 | 2.0 | ND | 0.8 | 0.2 | ND | ND |
| General food waste | 5 | 1.6 | 0.1 | 0.7 | 0.2 | ND | ND |

Notes: ND = no data

The 'standard' figures for the above organic manures have been taken from Defra's Fertiliser Manual 2010 (RB209) 8th edition and the corresponding PLANET version 3 software. Further information on fertiliser recommendations for organic manures can be obtained from the Fertiliser Manual or from a FACTS qualified adviser.