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Manure Production and Characteristics

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Keywords: Livestock, Manure, Waste

1.0 Purpose

1.1 This standard provides three types of information for estimating characteristics of livestock and poultry manure:

- Typical characteristics for manure “as-excreted” by livestock and poultry based on typical diets and animal performance levels in 2002 (Section 3);
- Equations for estimating manure excretion characteristics based on animal performance and dietary feed and nutrient intake specific to an individual situation (Sections 4 through 9);
- Typical characteristics for manure “as-removed” from manure storage or animal housing (Section 10).

1.2 Typical or average estimates of manure excreted become obsolete due to changes in animal genetics, performance potential, feeding program strategies, and available feeds. To minimize future concerns, a set of equations for predicting nutrient excretion (primarily nitrogen and phosphorus), dry matter, and, depending upon species, other potential characteristics have been assembled for beef, dairy, swine, horses and poultry. The Equation Estimates sections (Sections 4 through 9) allow an estimate of manure characteristics that is relevant to a wide range of dietary options and animal performance levels commonly observed in commercial production.

1.3 It is more appropriate to use the equations in Sections 4 through 9 for the following situations:

- When comprehensive nutrient management plans are being developed specific to an individual animal feeding operation (AFO);
- When farm specific data is available for an AFO’s feeding program and animal performance;
- When feed intake, feed nutrient concentration, feed digestibility, or animal performance varies from the assumptions used to estimate the typical values in Table 1.
- When Table 1 has not been updated to address industry trends.

1.4 It may be more appropriate to use the typical values found in Table 1 for the following situations:

- When planning estimates are being made on a scale larger than a single farm (e.g. county or regional estimate of nutrient excretion)
- When a rough approximation is needed for farm planning;
- When farm-specific information of animal performance and feed intake is not available.

