

## WHAT ARE AVERAGE MANURE NUTRIENT ANALYSIS VALUES?

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There is considerable variation in actual manure nutrient concentrations between different feeding operations and production systems. Concentrations vary depending on animal species, feed rations, bedding, dilution, production facility, and storage. For calculating manure nutrient application rates to meet crop needs, it is best to sample manure and have a chemical analysis conducted. However, there are situations where it is helpful to have an approximation of the nutrient concentration in animal manures. The following tables provide estimated average manure total nitrogen (N), total phosphorus (P) expressed as P<sub>2</sub>O<sub>5</sub>, and total potassium (K) expressed as K<sub>2</sub>O. The values were adapted from information in the MidWest Plan Service (MWPS) bulletin *Manure Characteristics*, MWPS-18 Section 1, second edition. These values represent nutrient concentrations of manure from storage facilities. Average values should be used only for general manure concepts and approximation for manure nutrient uses. Manure sampling and analysis is strongly recommended, as well as maintaining a history of manure nutrient analyses.

### Liquid Pit Manure

Livestock (Production System)				Livestock (Production System)			
Total N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Total N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O		
--- lb/1000 gal ---			--- lb/1000 gal ---				
<b><u>Swine</u></b>			<b><u>Beef</u></b>				
Farrowing	15	12	Cow	20	16		
Nursery	25	19	Feeder Calf	27	18		
Grow-Finish (deep pit)	50	42	Finishing	29	18		
Grow-Finish (wet/dry feeder)	58	44					
Grow-Finish (earthen pit)	32	22	<b><u>Poultry</u></b>				
Breeding-Gestation	25	25	Broiler	63	40		
Farrow-Finish	28	24	Pullet	60	35		
Farrow-Feeder	21	18	Layer	57	52		
			Tom Turkey	53	40		
<b><u>Dairy</u></b>			Hen Turkey	60	38		
Cow	31	15	Duck	22	15		
Heifer	32	14					
Calf	27	14	<b><u>Various</u></b>				
Veal Calf	26	22	Lagoon	4	3		
Dairy Herd	31	15					

Adapted from MidWest Plan Service (MWPS) bulletin *Manure Characteristics*, MWPS-18 Section 1.

## Solid Manure

Livestock	Total N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Livestock	Total N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
----- lb/ton -----				----- lb/ton -----			
<b>Swine</b>				<b>Beef</b>			
Farrowing	14	6	4	Cow	7	4	7
Nursery	13	8	4	Feeder Calf	9	4	8
Grow-Finish	16	9	5	Finishing	11	7	11
Breeding-Gestation	9	7	5				
Feeder	10	7	4	<b>Poultry</b>			
Farrow-Finish	14	8	5	Broiler	46	53	36
				Pullet	48	35	27
<b>Dairy</b>				Layer	34	51	26
Cow	10	3	6	Turkey	40	50	30
Heifer	10	3	7	Duck	17	21	30
Calf	10	3	5				
Veal Calf	9	3	6				
Dairy Herd	9	4	7				

Adapted from MidWest Plan Service (MWPS) bulletin *Manure Characteristics*, MWPS-18 Section 1.

### Additional Resources

- PMR 1003 *Using Manure Nutrients for Crop Production* (Iowa State Univ. Extension)
- PM 1588 *How to Sample Manure for Nutrient Analysis* (Iowa State Univ. Extension)
- A3769 *Recommended Methods of Manure Analysis* (Univ. of Wisconsin)
- MWPS-18-S1 *Manure Characteristics: Section 1, Second Edition* (MidWest Plan Service)
- D384.2 *Manure Production and Characteristics* (ASABE)
- Part 651 *Agricultural Waste Management Field Handbook* (NRCS)