



**MINERALIZATION RATES FOR ORGANIC NUTRIENT SOURCES
(4/19 update)**

Manure Sources and Types	Fraction of Organic Nitrogen Mineralized Each Year		
	Year of Application	1 st Year After Application	2 nd Year After Application
cattle (dairy & beef) (water buffalo & bison*)	0.35	0.18	0.09
poultry			
a. caged layers (no litter)	0.60	0.10	0.05
b. broilers (emus*)	0.50	0.15	0.08
swine (all types)	0.50	0.15	0.08
horse (ostriches, donkeys, mules*)	0.20	0.10	0.05
sheep (goat, alpaca, camel, llama, yak*)	0.30	0.15	0.05
chinchilla*	0.15	0.07	0.03
rabbit ¹	0.05	0.02	0.01
vegetable processing effluent ¹	0.40	0.15	0.08
meat processing residuals ¹	0.50	0.10	0.05
aquaculture waste (semi-solid) ¹	0.50	0.15	0.08
aquaculture effluent ¹	0.80	0.05	0
fish emulsion ¹	0.80	0.05	0
corn gluten, alfalfa meal, peanut meal ¹	0.85	0.10	0.05
compost (if C/N<25) ¹	0.05	0	0
feather meal and crab meal ¹	0.60	0.10	0.05
fish powder, hydrolyzed ¹	0.60	0.10	0.05
seabird gauno ¹	0.60	0.10	0.05
blood meal ¹	0.65	0.10	0.05
kelp	0	0	0

* Based on consultation with animal nutritionists, species in parenthesis are similar in diet and digestive system to the animal about which mineralization data are available.

¹ Data based on values from the literature or values considered best estimates by specialists with expertise in the area.