

## Animal Population Threshold Level Below Which Facilities Are Not Required to Report Emissions from Manure Management<sup>1,2</sup>

Animal Type	Type of operation	Manure Management System Type <sup>3,4</sup>	Average Annual Animal Population (head) by U.S. Climate Region and Average Annual Ambient Temperature (°F) <sup>5</sup> in Which Facilities May Meet or Exceed the Emissions Threshold Level <sup>6,7</sup>									
			Cool			Temperate			Warm			
			<50	50-53	54-57	58-61	62-65	66-69	70-73	74-77	78-81	
Beef	Feedlot	Steers and heifers on feedlot, manure managed on dry lot	32,000	32,000	31,800	31,000	30,800	30,600	30,400	30,200	29,300	
		Steers and heifers on feedlot, manure composted	63,200	62,900	62,500	59,100	58,700	57,900	57,300	56,600	53,300	
Dairy	Milking	Cows using uncovered anaerobic lagoon without solids separation, heifers and calves on dry lot with runoff pond	3,900	3,700	3,500	3,400	3,300	3,300	3,200	3,200	3,200	
		Cows using uncovered anaerobic lagoon with solid separation, heifers and calves on dry lot	6,300	5,900	5,700	5,500	5,400	5,300	5,300	5,300	5,200	
		Cows using liquid/slurry without solids separation, heifers and calves on dry lot	<i>liquid slurry with crust cover</i>	15,300	13,100	11,900	10,500	9,100	7,300	6,500	5,500	4,800
			<i>liquid slurry without crust cover</i>	13,100	11,500	9,500	8,300	7,000	5,400	4,600	3,900	3,300
		Cows using liquid/slurry with solid separation, heifers and calves on dry lot	<i>liquid slurry with crust cover</i>	20,600	18,100	16,800	15,000	13,300	11,000	9,800	8,500	7,500
			<i>liquid slurry without crust cover</i>	19,600	17,300	14,500	12,800	10,900	8,600	7,400	6,300	5,300
		Cows, heifers, and calves using solid storage of manure	37,200	37,200	37,100	28,200	28,200	28,100	28,100	28,000	25,000	
		Cows using deep pit, heifers and calves on dry lot	<i>deep pit storage for &lt;1 month</i>	32,600	32,500	32,500	32,200	32,100	32,100	32,000	32,000	7,600
	<i>deep pit storage for &gt;1 month</i>		12,200	10,700	8,900	7,900	5,900	5,300	4,500	3,800	3,200	
	Heifer raising	Heifers on dry lot	135,800	135,700	135,400	132,400	132,100	131,500	131,000	130,500	127,200	
	Swine	Farrow-to-finish	Breeding, nursery, and market pigs using a deep pit	<i>deep pit storage for &lt;1 month</i>	705,100	705,100	705,100	705,100	705,100	705,100	705,100	93,800
<i>deep pit storage for &gt;1 month</i>				161,000	138,100	111,700	96,900	80,800	61,900	52,000	44,100	36,900
Breeding, nursery, and market pigs using an uncovered anaerobic lagoon			44,200	41,700	40,000	38,900	37,900	37,400	36,900	36,900	36,500	
Breeding, nursery, and market pigs using a liquid slurry			<i>liquid slurry with crust cover</i>	227,200	184,200	163,600	140,000	117,500	91,700	79,200	66,600	57,400
			<i>liquid slurry without crust cover</i>	171,800	146,100	116,800	100,700	83,400	63,500	53,100	44,900	37,400
Breeding, nursery, and market pigs using solid storage			601,100	601,100	601,100	425,900	425,900	425,900	425,900	425,900	371,700	
Grow-to-finish		Market pigs using a deep pit	<i>deep pit storage for &lt;1 month</i>	653,600	653,600	653,600	653,600	653,600	653,600	653,600	653,600	86,700
			<i>deep pit storage for &gt;1 month</i>	148,800	127,700	103,200	89,500	74,700	57,200	48,000	40,800	34,100
		Market pigs using an uncovered anaerobic lagoon	474,100	366,300	235,100	173,300	685,800	401,100	414,200	500,100	765,100	
		Market pigs using a liquid slurry	<i>liquid slurry with crust cover</i>	210,400	170,500	151,400	129,600	108,700	84,800	73,200	61,500	53,100

			Average Annual Animal Population (head) by U.S. Climate Region and Average Annual Ambient Temperature (°F) <sup>5</sup> in Which Facilities May Meet or Exceed the Emissions Threshold Level <sup>6,7</sup>								
		<i>liquid slurry without crust cover</i>	158,700	134,900	107,900	93,000	77,100	58,600	49,000	41,500	34,600
	Market pigs using solid storage		559,500	559,500	559,500	395,500	395,500	395,500	395,500	395,500	345,000
Farrowing	Breeding and nursery pigs using a deep pit	<i>deep pit storage for &lt;1 month</i>	959,500	959,500	959,500	959,500	959,500	959,500	959,500	959,500	127,800
		<i>deep pit storage for &gt;1 month</i>	219,400	188,300	152,300	132,100	110,100	84,400	159,400	60,200	50,300
	Breeding and nursery pigs using an uncovered anaerobic lagoon		60,300	56,800	54,500	53,100	51,700	51,000	50,400	50,400	49,700
	Breeding and nursery pigs using a liquid slurry	<i>liquid slurry with crust cover</i>	309,300	250,800	222,700	190,700	160,100	124,900	108,000	90,700	78,200
		<i>liquid slurry without crust cover</i>	234,200	199,100	159,300	137,300	113,700	86,500	72,400	61,200	51,000
	Breeding and nursery pigs using solid storage		816,600	816,600	816,600	579,100	579,100	579,100	579,100	579,100	505,600
	Poultry	Layers	Layers and pullets using an uncovered anaerobic lagoon	877,000	826,900	792,900	771,800	751,700	742,100	732,700	732,700
Layers and pullets without bedding			27,304,100	27,304,100	27,304,100	27,304,100	27,304,100	27,304,100	27,304,100	27,304,100	27,304,100
Turkeys		Turkeys on bedding	7,710,000	7,710,000	7,710,000	7,710,000	7,710,000	7,710,000	7,710,000	7,710,000	7,710,000
Broilers		Broilers on bedding	38,160,400	38,160,400	38,160,400	38,160,400	38,160,400	38,160,400	38,160,400	38,160,400	38,160,400

<sup>1</sup>The threshold populations in this table were calculated using the most conservative assumptions (high VS and N values, maximum ambient temperatures for each temperature range, and the application of an uncertainty factor based on the uncertainty analysis of the U.S. Greenhouse Gas Inventory for Manure Management). If your facility matches one of the manure management system types in the table and exceeds the average annual animal population, you still may not be covered by the rule because your emissions still may be lower than the 25,000 metric tons CO<sub>2e</sub> level; however, you should conduct a more thorough analysis to determine applicability.

<sup>2</sup>If your facility's manure management system does not closely match any of the manure management system types in the table, or is a combination of multiple systems, you should conduct a more thorough analysis to determine applicability.

<sup>3</sup>If your facility has multiple animal types present (e.g., swine and poultry), you must determine the animal population threshold level below which facilities are not expected to exceed the emissions threshold level (25,000 metric tons CO<sub>2e</sub>) by calculating the combined animal group factor (CAGF) using equation JJ-1 in §98.360 (a)(2).

<sup>4</sup>For definitions of the manure managements systems, please see Table A-173 in Annex 3 of the Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007 (<http://www.epa.gov/climatechange/emissions/downloads09/Annex3.pdf>).

<sup>5</sup>If necessary, refer to the following web site to download local ambient temperature data: ([http://cdo.ncdc.noaa.gov/cgi-bin/climatenormals/climatenormals.pl?directive=prod\\_select2&prodtype=CLIM20&subnum=](http://cdo.ncdc.noaa.gov/cgi-bin/climatenormals/climatenormals.pl?directive=prod_select2&prodtype=CLIM20&subnum=))

<sup>6</sup>The estimation of average annual animal population is described in §98.363 (a)(i) and (ii).

<sup>7</sup>For all animal groups except dairy, the average annual animal population represents the total number of animals present at the facility. For dairy facilities, the average annual animal population represents the number of mature dairy cows present at the facility. (Note that heifers and calves were included in the emission estimates for dairy facilities using the assumption that the average annual animal population of heifers and calves at dairy facilities is equal to 30 percent of the mature dairy cow average annual animal population; therefore, the average annual population for dairy facilities should not include heifers and calves, only dairy cows.)