

Source Category: Animal Husbandry - Poultry

SCC Code: 2805030000

Pollutants of Concern: NH₃

How is the NH₃ National Emission Inventory developed for this category?

Current Methodology:

- The total number of poultry in production is estimated from data available through the Census of Agriculture.
- Emission factors based on European studies are applied.
- A composite emission factor is developed to represent the national mix of animal type, size, and production conditions.
- Total emissions for each state are calculated from state-level animal count information.
- Emissions are allocated to the county-level based on the agricultural land surrogate.

Uncertainties / Shortcomings of Current Methods:

- The animal counts reported to Census of Agriculture may undercount nonproduction animals.
- Aggregate factors are based on national averages for each type of bird and production operation. Different mixes of layers, broilers, ducks etc. can be expected in different locations.
- The emission factors represent European operations and European weight classifications which can differ markedly from U.S. conditions.
- Emissions can vary significantly particularly based on the waste management approaches.

How can State, Local, and Tribal agencies improve upon this methodology?

The new NEI methodology will accommodate emissions separately for chickens and turkeys. The new source categories will be:

Chickens A2805030000

Turkeys A2805035002

- Obtain local data on the total number of layers, pullets, broilers, and turkeys, etc. including any breeding, and replacement stock.
- Estimate the typical distribution of feeding, waste treatment, and waste disposal practices in the area. Aggregate emission factors may be adjusted to account for the revised local conditions.

Activity Variables Used to Calculate Emissions from Poultry Production

Current Variables/Assumptions Used:

- Total number of poultry animals by State. [*Census of Agriculture*]
- Aggregate emission factor [*based on European studies*]

Suggestions for Improved Variables:

- Local estimate of number of each type of bird including nonproduction animals. [*State Department of Agriculture, Agriculture Extension Service, State Water Quality Office*]

Where can I find Additional Information and Guidance?

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NH₃ Emission Factors Report <http://www.epa.gov/ttn/chief/efdocs/ammonia.pdf>

NEI Methodology Description <http://www.epa.gov/ttn/chief/publications.html#reports>

MARAMA CMU NH₃ Emissions Inventory check MARAMA website www.marama.org/

1997 Census of Agriculture <http://www.nass.usda.gov/census/>