Animal Mortality Information for the Phase 6 Model

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Mortality in Phase 6 Model

- Mortality is implicit in Phase 6 animal populations.

- Populations from Ag Census (livestock) and USDA-NASS annual reports (broilers and turkeys) are used directly.

- Ag Census populations represent inventory. Inventory implicitly accounts for mortality.

- USDA-NASS annual reports represent birds produced. Birds produced implicitly accounts for mortality.

Mortality Information

Data from Phase 5 Model

Animal	Mortality Fraction	Lbs N/Carcass	Lbs P/Carcass
pullets	0.1	?	?
turkeys	0.07	?	?
hogs and pigs for breeding	0.06	?	?
beef	0.06	?	?
broilers	0.05	?	?
dairy	0.06	?	?
hogs for slaughter	0.06	?	?
horses	0.06	?	?
layers	0.1	?	?
other cattle	0.06	?	?
sheep and lambs	0.06	?	?
goats	0.06	?	?

Data from Michigan State Compost Optimizer Tool

Material	Moisture %	Carbon % of wet wt	Nitrogen % of wet wt
Bovine carcass	70.0	15.0	2.76
Horse carcass	75.0	19.0	2.80
Poultry carcasses	65.0	4.2	0.84
Swine (adult) carcass	53.3	28.9	2.59
Swine (young pig) carcass	67.3	18.3	2.61

- Limited information available for nitrogen content of carcass.
- No information available on phosphorus content of carcass.

Water Quality Questions

- How many pounds of nutrients are in carcasses?

- What percent of nutrients in carcasses leak into nearby waterbodies/groundwater following burial <u>without</u> mortality composting?

- What percent of nutrients in carcasses leak into nearby waterbodies/groundwater following burial <u>with</u> mortality composting?

- What happens to the nutrients following composting?
  - Land applied?
  - Landfill?
  - Transported out of watershed?

- Do existing AWMS structures already treat carcasses?

Potential Credit Mechanisms

- Option 1: If a panel finds a water quality benefit, that benefit could be added as a % reduction to feed space loads in a future milestone period.

- Option 2: Ag Workgroup could request a change to the manure calculations from the Water Quality GIT and Modeling Workgroup in a future milestone period if a panel defines:
  - % mortality
  - nutrients available in carcasses
  - water quality benefit, and
  - wishes to explicitly account for all of this in the model