Poultry 101 Symposium
Session 3
Understanding the Science
Poultry Nutrient Generation
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Kelly Shenk, EPA Region III, Agricultural Advisor
shenk.kelly@epa.gov
410.267.5728
Chesapeake Bay and its Streams

Impaired by nitrogen, phosphorus, sediment
Chesapeake Bay Program Partnership

An example partnership that has led and directed the restoration of the Chesapeake Bay since 1983.
Chesapeake Bay Pollution Diet (TMDL)

- State Watershed Implementation Plans
  - Wastewater treatment plants
  - Urban Stormwater, Septic Systems
  - Agriculture

- 2-Year Milestones
- By 2025, all practices must be in place to meet WQ standards.

- Measure Progress
  - Models & WQ monitoring
Agriculture is a Big Part of the Bay Restoration Solution

Relative N Reductions for Bay TMDL

States are relying on agriculture to achieve roughly two-thirds of the necessary nutrient reductions for the Bay TMDL. Large land use and loads. Relatively cost-effective to reduce.
How many Nutrients are Generated by Delmarva Chickens?

Photo 2: https://missmdag.wordpress.com/2016/08/18/growing-broilers-week-8/

Photo 1: http://www.bayjournal.com/article/poultry_mega_houses_forcing_somerset_county_residents_to_flee
Chesapeake Bay Program Partnership Models

INPUTS
- BMP Data
- LU Data
- Point Sources Data
- Septic Data
- U.S. Census Data
- Agricultural Census Data

MODEL-DERIVED
- Airshed Model
- Land Use Change Model
- Precipitation Data
- Meteorological Data
- Elevation Data
- Soil Data

# birds
Amount of manure
Amount of nutrients in manure
“Building a Better Bay Model”
Workshop - 2013

Set Up for Success

- 2-day workshop
- Name of workshop
- Hosts:
  - Industry
  - University
- Plenary: EPA

Common Goal
- Best data for best decisions

Participants
- Industry, Integrators
- Growers, Universities
- State Ag Agencies
- USDA, EPA
Poultry Litter Subcommittee

- **Members** - State agricultural agencies, land grant universities, USDA, EPA – working with ag industry.

- **Charge** – Take recommendations from the Workshop and build regional poultry database to give the best estimate of poultry nutrient generation in the Bay watershed.

- **Start with Delmarva broilers.**

- **Submit recommendations to the Chesapeake Bay Program for review and approval.**
Poultry Nutrients Generated =

Poultry Nutrient Concentrations \times Poultry Litter Generation/Bird \times \# of Birds

Before: National Poultry Excreted Manure
After: Regional Litter

Before: Excreted Manure
After: Regional Litter Volume
Bird wt.

Before: 5-Year Ag Census
After: Annual NASS

What we Manage: Regional Data
Annual Variation: Farmer Privacy Protected
Building a Regional Poultry Database

We got the Green Light!

- Workshop led to Poultry Litter Subcommittee – 2 yr effort
- Approved by Chesapeake Bay Program in 2015.
- New data replaced the old data in the model.
- Good Data = Good Decisions
What we Learned

- **Engage ag industry** (not just USDA, state ag agencies, and universities).
- **Find workable forum** – that works for growers.
- **EPA** - we proved want the best data.
- **Poultry Industry** – proved they can share data.
- **Universities** – proved they can protect farmer privacy.
- **Results** – consensus on answer, increased confidence in model, strengthened trust.
Phase 6 Model Webinar
Poultry Data

May 24th
1:00 PM – 3:00 PM

Adobe Connect:
https://epawebconferencing.acms.com/mpawebinars

Webinar Calendar Page:
http://www.chesapeakebay.net/calendar/event/25117/
Discussion