CASE STUDY

Collaborative Process for Shared Understanding of Poultry-Generated Ammonia

The Need

Nitrogen is an essential nutrient for plants and animals. Too much or too little of it, in any form, can cause big problems. Poultry production is a source of ammonia, which can have harmful impacts on the Chesapeake Bay, local waterways, and ecosystems, as well as the chickens themselves. Ammonia emissions and their dynamics– measuring and modeling its movement and abating it in poultry houses and our environment–are difficult to understand because the science is complex, and the data is not easily accessible.

The Delmarva Land and Litter Collaborative (DLLC) saw the need for an unbiased, factual summary of ammonia emissions related to poultry production on Delmarva and committed themselves to a shared learning process. The information gathered and agreed upon by the members of this diverse collaborative was compiled and made available to the public. This case study identifies key strategies used to reach consensus and the group process for writing the white paper and releasing it to the public.

Learn More

- Ammonia whitepaper
- Ammonia emissions from poultry production webinar
- Lower Eastern Shore Air Monitoring Data

Why Delmarva Land and Litter Collaborative?

The Delmarva Land and Litter Collaborative is the only group of its kind in the region that brings together environmental organizations, poultry growers, agricultural industry, academia, and state and federal regulators to ensure broad perspectives and thorough vetting of information. Because of this, DLLC is a trusted source for insights on how both agricultural production and water quality can flourish on the Delmarva Peninsula. The group requires unanimous approval among its 30 members before it issues any statements or reports.

> *"Our process ensures that our products can be trusted because they have been thoroughly reviewed by all our members. We hope that this report on ammonia production provides an opportunity for shared understanding of what is known, as well as gaps in our current understanding, monitoring, and modeling programs."*
>
> Josh Hastings, DLLC Chair and ED of Forever Maryland

The Process

Facilitating a shared process among individuals with different knowledge, experience, educational background, and interests requires a commitment to engaging diverse perspectives over developing a final product. The process began with informal conversations among our poultry industry and environmental organization members about ammonia emissions from chicken houses. Our members agreed that there was a need for shared learning, presented by trusted experts, so that everyone had the same information. Building consensus around the facts took time, close to two years in all, as our members thoroughly reviewed information and vetted our text with subject matter experts.

The DLLC Innovative Solutions Workgroup developed two webinars that offered presentations and discussions with top university poultry researchers, and experts on monitoring and modeling poultry ammonia emissions. The DLLC backbone support staff summarized the webinars, key points, and data gaps, which the presenters and DLLC members reviewed and agreed upon. Once this shared baseline understanding was established, DLLC members voted to share this information in a public document. A new Ammonia Dynamics Workgroup was established within DLLC with a clearly defined scope and purpose. The chair of this workgroup was a scientist who served as the lead author.

The Ammonia Dynamics Workgroup and support staff, along with oversight by the Executive Committee and Communications Committee, conducted extensive discussions, reviews and edits of the text and references. They sought reviews from outside experts and the DLLC member organizations. The final review by the DLLC membership was conducted in-person and the lively discussions led to several final edits. Prior to release, each voting member was required to digitally record their approval to release the document.

Results

A white paper was released under the collaborative's name in December of 2022. A public webinar was held to present the finding and is available online.

Benefits

- Shared ownership of the product.
- Alignment of baseline knowledge.
- Information is evaluated from diverse perspectives.
- Sets the stage for a shared understanding of the problem, data gaps, possible solutions, and next steps.

Keys to Success

- A clear scope and shared understanding of the expected outcomes.
- A credible lead author who is open to a shared process.
- Recognition of the time commitment required.
- Experts must be open to dialogue with non-expert participants.
- Ensure that all participants have received and reviewed the documents during each stage of the process.
- A commitment to set aside agendas to critically examine facts and reach consensus on the status and potential paths forward on the issue.