Ammonia study

# Shropshire poultry working group

**BACKGROUND**

Ammonia (NH3) is a key air pollutant, causing global warming, impacts on human health and ‘nitrogen deposition (eutrophication) on designated wildlife sites and natural assets’ (Shropshire Council, <https://shropshire.gov.uk/media/9752/interim-guidance-note-on-ammonia-emitting-developments-v1april2018-web-version.pdf>). Around 88% of ammonia emissions in the UK come from agriculture. Ammonia can also have an impact as a diffuse pollutant of water.

There has been rapid growth in the poultry flock size in Shropshire in recent years and as a result there is concern about the potential impacts of ammonia emitted from poultry housing on the county’s numerous designation wildlife sites.

The farming industry is however concerned that the algorithms being used to model ammonia emissions do not reflect improvements in efficiency and therefore the ammonia reductions that have been achieved in recent years. Housing and ventilation developments, genetic advancements, changes to heat source and an improved understanding of shed management for welfare will have already had a positive impact on reducing ammonia, however, these are not being sufficiently accounted for in current modelling. This leaves farmers unsure of what their true environmental impact is and what further measures need to be deployed.

**AIM**

* To get a clearer understanding of ammonia arisings from poultry housing
* To find practical / deliverable / cost effective solutions for controlling ammonia
* To better harness nitrogen in manures as a crop fertiliser
* To unlock planning challenges presently being experienced by poultry farmers wanting to develop their businesses in Shropshire.

**KEY STUDY AREAS**

1. **Ammonia monitoring** – what is actual output from modern housing systems? Providing base level data will enable a better understanding of what further measures need to be deployed
2. **Diet influences** – dietary adaptations to reduce ammonia
3. **Bedding and manure management** – bedding types /treatments, composting, storage to maximise use of N.
4. **Ammonia capture** – affect of vegetative barriers in reducing aerial dispersion of ammonia

**FUNDING SOURCES**

1. Innovative farmers Field Lab – researcher support
2. Poultry integrators, processors & sector groups
3. CREST – developing collaboration research

**STAKEHOLDERS INVOLVED**

1. Farmers – to achieve successful research multiple farms and farmers need to be engaged
2. Possible researchers: -
* CEIL, Andy Butterworth
* Harper Adams, Paul Lewis
* other
1. Technology providers & suppliers – housing & ventilation systems, bedding, feed suppliers etc
2. Integrators

**EXTERNAL SUPPORTERS**

* Shropshire Wildlife Trust. SWT have thrown their support behind the concept of a farmer led ammonia investigation and have offered administrative support in applying for grant funding, promoting the initiatives aims etc.
* Other…?

**COORDINATION / FACILITATION**

I have been able to develop the concept of this working group as part of my Nuffield Farming Scholarship studies. For further coordination of the research I am seeking financial support for my time.

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