

# Clearing the air



## Practical advice for reducing ammonia emissions from farms

This leaflet explains how farmers, growers, land managers, advisors and contractors can aim to minimise ammonia emissions from agriculture by making changes in five key areas:

1. Organic manure storage
2. Organic manure application
3. Manufactured nitrogen fertiliser application
4. Livestock feeding (sector specific)
5. Livestock housing (sector specific)

By following the advice in this leaflet, you will help to reduce ammonia emissions and the loss of valuable nitrogen to the atmosphere *and* help to future-proof your business.

## What's the problem?

### What is ammonia and why is it an issue?

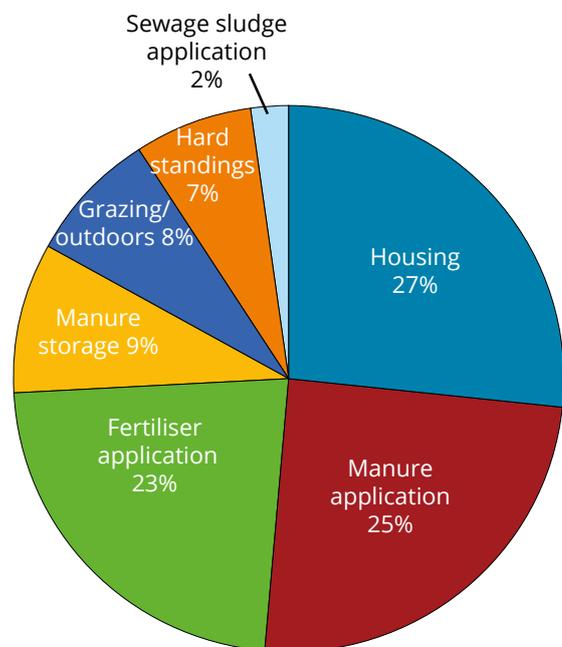
Ammonia (NH<sub>3</sub>) is a key air pollutant that can have significant effects on both human health and on sensitive plants and ecosystems.

The government is committed to reducing ammonia emissions by 16% by 2030, compared to 2005 levels.

Around 87% of ammonia emissions in the UK come from agriculture.

Most ammonia comes from livestock manures in animal housing and stores, and from when manures and nitrogen fertilisers are applied to land.

90% of environmentally designated, protected sites are impacted by ammonia.



Ammonia emissions by management category

# Don't get caught short

## What are the key ammonia losses from agriculture?

Nitrogen is a key nutrient and can be lost in the form of ammonia from organic manures and manufactured nitrogen fertilisers, particularly urea, during spreading.

This happens when they come into contact with air, particularly on warm or windy days meaning that the material is a less effective fertiliser and loses value.

Improving overall nutrient management practices could provide financial savings to the farmer by using only the correct amount of organic and manufactured fertiliser, reducing wastage and therefore reducing the potential for ammonia emissions.

## Do your bit

### What practical steps can I take to reduce ammonia losses?

Farmers, growers, land managers, advisors and contractors in England can take easy, practical steps to minimise ammonia emissions. These include:

#### 1. Storage and application of manures:

- ➔ Provide a minimum of four months' winter storage of slurry, (five months' worth for dairy and beef farms and six months' worth for pig farms in a NVZ). Consider providing up to six months storage in wetter areas of the UK.
- ➔ Cover slurry stores or allow a natural crust to develop.
- ➔ Sheet over field heaps of manure.
- ➔ Keep poultry manure and litter dry.
- ➔ Use a *nutrient management plan* so that organic manures and fertilisers are spread in the right amount, in the right place, at the right time.
- ➔ Spread in cool, windless and damp conditions.
- ➔ Use low emission spreading equipment such trailing hose, trailing shoe or injection instead of splash plates.
- ➔ Incorporate solid manure on tillage land within 12 hours.



Covered slurry store.

Photo: Catchment Sensitive Farming (CSF)

#### 2. Application of manufactured fertilisers

- ➔ Switch from urea-based fertilisers to ammonium nitrate.
- ➔ Use urease inhibitors with urea-based fertilisers.
- ➔ Urea-based fertilisers should be spread when rainfall is due. On tillage land, they should either be applied by injection or incorporated as soon as possible.
- ➔ Apply ammonium nitrate in cool and moist conditions *but* avoid applying when rainfall is expected.

### 3. Modifications to livestock diet

- ➔ Use a professionally formulated diet to match the nutrient content of the feed to the requirements of the animal at different production stages.

### 4. Livestock housing

- ➔ Regularly clean up manure.
- ➔ Increase scraping frequency.
- ➔ Use grooved floors to channel urine so that it reduces the amount that mixes with faeces and forms ammonia.
- ➔ Minimise the surface area of exposed slurry pits.
- ➔ Consider planting trees / scrub downwind to capture ammonia near livestock housing.



Tree planting near livestock housing. Photo: CSF



Grooved floor. Photo: CSF

Trailing shoe spreader. Photo: CSF



# Need a helping hand?

## Where to get support to reduce your ammonia emissions

General sources of financial and technical advice can be found through the following organisations and websites:

**Tried & Tested** (Tel: 02476 858 896) provide free nutrient management information and guidance and can help you to find suitable farm advisers or a laboratory for soil analysis.

**Catchment Sensitive Farming** (Tel: 020 80 262 018)

If you are in a Countryside Stewardship high priority area for water quality, you may be able to receive free training and advice regarding nutrient management, manure management and farm infrastructure through Catchment Sensitive Farming.

Also look on the GOV.UK website at

[www.gov.uk/guidance/catchment-sensitive-farming-reduce-agricultural-water-pollution](http://www.gov.uk/guidance/catchment-sensitive-farming-reduce-agricultural-water-pollution)

**AHDB** (Agriculture and Horticulture Development Board) equip the industry with easy to use, practical know-how, which they can apply straight away to make better decisions and improve their performance. <https://ahdb.org.uk/>

**Defra resources.** A wide range of information about statutory requirements, guidance documents and sources of advice can be found at:

<https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/services-information>

**Code of Good Agricultural Practice – Reducing Ammonia Emissions**

Download from <https://www.gov.uk/government/publications/code-of-good-agricultural-practice-for-reducing-ammonia-emissions/code-of-good-agricultural-practice-cogap-for-reducing-ammonia-emissions>

## About Eden Rivers Trust

Our dedicated farming, conservation and engagement teams work closely with farmers and other businesses to help find water-friendly solutions to improve the quality of water and habitats within the Eden catchment.

We provide assistance and guidance on compliance with current Regulations and future Government policy.

[www.edenriverstrust.org.uk](http://www.edenriverstrust.org.uk)



**A clear solution  
for farmers**  
CATCHMENT SENSITIVE FARMING



**Environment  
Agency**

**Eden  
Rivers Trust**

