

Part 2

Ammonia emissions from synthetic fertilisers
Update on pesticides, ammonia from crops & nitric oxide
News of other activities

Updating ammonia emission factors for synthetic fertilisers

- New methodology introduced in 2016
 - Accounts for effects of fertiliser type, soil characteristics and weather conditions
- 2018 revision
 - Not originally planned
 - Intended to be minor
 - Provide better documentation (including a scientific paper)
 - Add additional data and revise parameters
- Results of open review
 - No consensus
 - Small change to the underlying model had large relative effect on some low-emission fertiliser types (questionable?)
 - Complaints that the emission factors were changing too frequently

Updating ammonia emission factors for synthetic fertilisers

- Problems with scientific paper
 - Reviewer criticism of paper – no account taken of application rate
 - Accept need to look again at the underlying model
- Our recommendation how to progress:
 - Add application rate data
 - Look at structure of underlying model
 - Revise model
 - Revise paper
 - Send revised methodology for open review late 2019/early 2020
 - Aim to recommend adoption of new methodology in 2020

General observations

- Frequency of revisions
 - Accept that this was a problem on this occasion
 - Should expect revisions as part of the Guidebook maintenance plan
 - Revision of emission factors depends on advances in science
 - Important that the Guidebook is kept up to date
 - Long periods between revisions might lead to bigger changes
- Lack of awareness
 - Encourage Parties to make relevant experts aware of open reviews
 - Difficult to deal with major comments outside of review period
 - Can deal with minor errors (e.g. typographic errors) as they arise



Crop ammonia emissions

- Emissions have been discussed over many years
- Main issues
 - Crops can both emit and absorb ammonia
 - Some crop emissions depend on atmospheric ammonia concentrations
 - Lack of data
- Workshop?
 - Gather inventory compilers and scientist
- Discussions with EMEP modellers
 - They lack a good model
 - No help there



Emissions from impurities in pesticides (3Df)

- Presentation at Ag and Nature Panel last year
- Ulrike Döring, UBA, Germany



Nitric oxide emissions

- Direct and indirect emissions
 - Direct emissions resulting from fertiliser and manure
 - Indirect emissions resulting from NH_3 emissions
- Agricultural sources are of increasing importance
- Review of literature and methodology planned for this year
 - Ute Skiba (Centre of Ecology and Hydrology, Edinburgh)
 - Contact her if you have data or know of data



Other activities

- **Task Force on Reactive Nitrogen**
 - <http://www.clrtap-tfrn.org/>
 - Expert Panel on Mitigation of Agricultural Nitrogen
 - Meeting 1 & 2 Oct 2019
 - Preceded by EU sponsored joint benefits workshop 30 Sept/1 Oct
- **Integrated Nitrogen Management Project**
 - <http://www.inms.international/>
- **International Nitrogen Initiative**
 - <https://initrogen.org/>



2019 refinement of the IPCC guidelines for GHG inventories

- Decision taken at the 44th Session of IPCC in Bangkok, Thailand, in October 2016
- Development of the new Methodology Report to refine the current inventory guidelines (= “2019 Refinement”)
- To maintain the scientific validity of the 2006 IPCC Guidelines, certain refinements may be required, taking into account scientific and other technical advances that have matured sufficiently since 2006
- The 2019 Refinement will not revise the 2006 IPCC Guidelines, but update, supplement and/or elaborate the 2006 IPCC Guidelines where gaps or out-of-date science have been identified.
- It will not replace the 2006 IPCC Guidelines. It should be used in conjunction with the 2006 IPCC Guidelines.



2019 refinement of the IPCC guidelines for GHG inventories

- A Scoping Meeting was held to prepare an outline of the Methodology Report to refine the 2006 IPCC Guidelines
- The Methodology Report clearly describes which parts of the 2006 guidelines shall be refined.
- CH₄ and N₂O emissions from livestock, manure management and soils were amongst the issues to be refined.
- First Lead Author Meeting in June 2017 in Bilbao, Spain.
- The final draft will be considered by the IPCC for adoption/acceptance at its Plenary Session in May 2019.
- The official press release of the outcome to the IPCC-49 meeting was released today (May 13th) – refinement has been accepted
- (check <https://www.ipcc.ch/2019/05/13/ipcc-2019-refinement/>)