Compliance with multiple EU directives at the farm scale

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Background

- EU Directives:
  - Nitrates, Habitat, NEC, Water Framework and IPPC
- National regulations
- N management has become complex
  - For farmers
  - For regulators
- Need decision support tool
Farm N surplus

- Animal feed
- Fertiliser
- Manure
- Fixation
- Deposition

Farm

Change in soil N

Animal products
Crop products
Manure

Losses
Change in soil N

EF = Emission factor

N products

NH₃

NH₃, N₂, N₂O

EF

EF

EF

Simple model

N feed

N products

N fertiliser

N manure

N fixation

N deposit.

Fields

Simple model

Change in soil N

Simple model

NO₃

www.farm-n.dk
FARM-N internet tool

- Calculate farm N surplus
  - Low uncertainty
- Use simple models to estimate N losses
  - High uncertainty
- \( \sum \) modelled N losses \( \neq \) N surplus
- Use simple algorithms to distribute the difference
Accurate enough?

- Emission factor/simple model approach
  - Ok for national inventories
  - Good enough for individual farms?
  - Convince regulators+