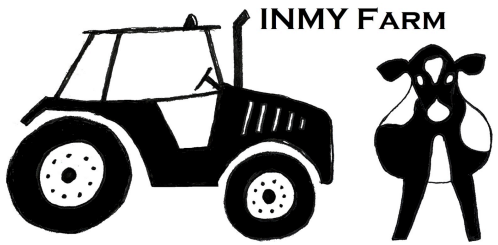

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Findings of INMY Farm - Evidence-based Good Practice for Integrated Nitrogen Management on Yorkshire Farms

Kevin Hicks & Jean McKendree, SEI, University of York
Pippa Chapman, University of Leeds

UKRI Natural Environment Research Council

Aims of INMY Farm: Part 1

- Synthesise best available science and good practice to inform more ***integrated and efficient nitrogen use in farming***, with a focus on Yorkshire
- Create guidance to support INM planning at the farm level through ***farmer networks and advisors***, ***linking to developing national policy***
- Delivery of Part 1 by July 2021

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INMY Farm

What are we after?

Reducing Water, Air, GHG, Ecosystem and Soil (WAGES) Impacts

Inputs:
> Organic - manure
< Synthetic fertilizer

For:
> structure, water retention and soil carbon
< erosion

Timing, rate and mode of application:
> Nitrogen Use Efficiency
< air pollution (NH_3) improving health ($PM_{2.5}$) and biodiversity impacts (N deposition)
< GHGs (N_2O & CH_4)
< water pollution (NO_3)

Can we turn improved environmental WAGES into improved 'Wages' for farmers?

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INMY FARM

Structure of guidance

- Advice is focused around ***improving soil health***
- Three farming systems:
  - Arable
  - Upland livestock
  - Mixed lowland arable and livestock

- Structured around the ***farmers' calendar*** highlighting decisions that affect integrated nutrient use and soil health
- Guidance is intended to ***prompt discussions*** between advisors and farmers at the farm level

Example topics in guidance

- **It all starts with Soil Health**: e.g. physical, chemical, biological indicators; measures
- **Feeding the soil**: e.g. organic and inorganic sources, N equivalence
- **Working the soil**: e.g. tilling, cropping
- **Animal management**: e.g. nutrition, housing, slurry storage
- **Links to policy and sources of payments**

The “Wheel of N” for Integrated Livestock and Arable Farm

CROP CYCLE

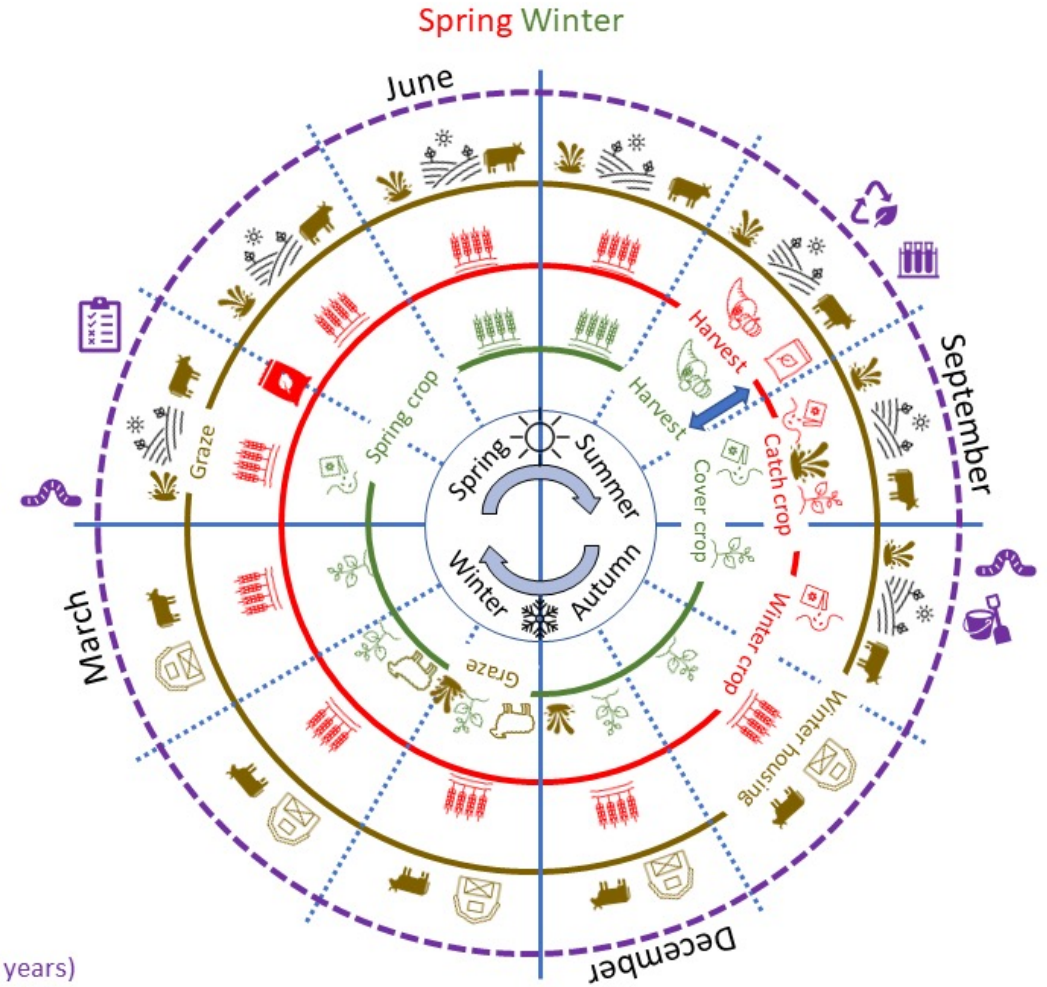
- Drill seeds
- Cash crop
- Cover/catch crop
- Fertiliser
- Lime

LIVESTOCK CYCLE

- Grazing (cattle/sheep)
- Winter housing
- Manure

SOIL HEALTH

- Nitrogen test (RB209)*
- VESS
- Earthworm count
- pH
- Soil organic matter (every 5 years)



J Dungait, Soil Health Expert & A Gowthorpe, Approach Farm, for INMY Farm © 2021

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INMY Farm

…and not reinventing the Wheel…there is a lot of existing advice

… which can be linked to our integrated WAGES approach

What the Stakeholders Say:

Defra: Soil and Fertilizer teams also developing more systems/integrated approaches

AHDB: developing innovative tools and interested to further promote RB209 guidance

ADAS: existing nutrient management tools that are under-used

Farmer networks: advisors would like tools to increase uptake of better management practices

NFU: interested in promoting business case for more sustainable farming

All interested in INMY Farm results

Next Steps:

- Pilot farmer interviews using Personal Construct Psychology approaches
- Guidance based on three case studies assessed by farmer advisors/farmers
- Map existing tools onto our three case studies
- Stakeholder workshop to fine tune near final guidance approach and ensure link to other initiatives
- Develop outreach plan for Phase II

Stay tuned and thank you

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