# Identifying and addressing the barriers to the use of regenerative agriculture practices in the north of England

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Agriculture@Newcastle
#regenerativeagriculture

Regenerative Agriculture – Understanding the Opportunities and Challenges – Hilton Hotel, York, 25-26 April 2023

From Newcastle. For the world.

# Acknowledgements


- The farmers and organisers to cooperated with this research

- BBSRC's Farm Sustainability Fund, as part of the joint AHDB/BBSRC initiative "Enabling the agricultural transition to net-zero

# How?

- **an online survey –identify overarching barriers &**
- **3 farmer-led workshops – receive farmer suggested solutions**
  - @ Cockle Park, Northumberland, 26 Jan. 2022
  - invited presenters and NU staff
  - @ Melmerby, Cumbria, 3 Feb. 2022
  - in collaboration with the Farmer Network
  - @ Thirsk, Yorkshire, 18 Feb. 2022
  - with “Topcliffe Innovation Group” and Future Food solutions

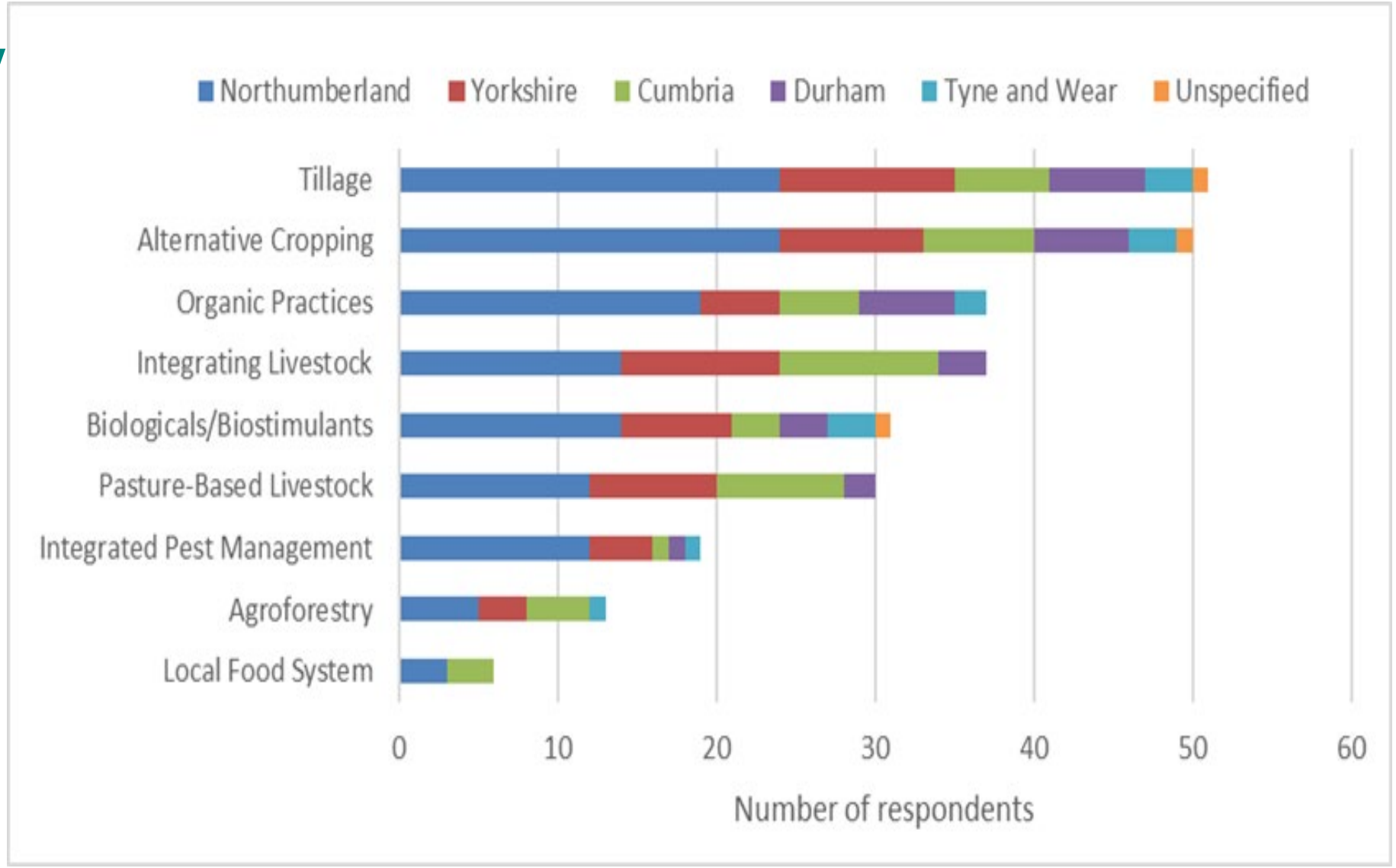
# Who responded to the online survey?

N=73 farmers from across the north of England

| Management | Cumbria | Durham | Northumb. | Tyne Wear | Yorkshire | Unknown | Total |
|---|---|---|---|---|---|---|---|
| Conventional | 8 | 5 | 25 | 2 | 23 | 0 | 63 |
| Organic | 2 | 0 | 2 | 1 | 0 | 0 | 5 |
| Both | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| Unspecified | 0 | 1 | 0 | 0 | 1 | 1 | 3 |
| Total | 10 | 6 | 29 | 3 | 24 | 1 | **73** |

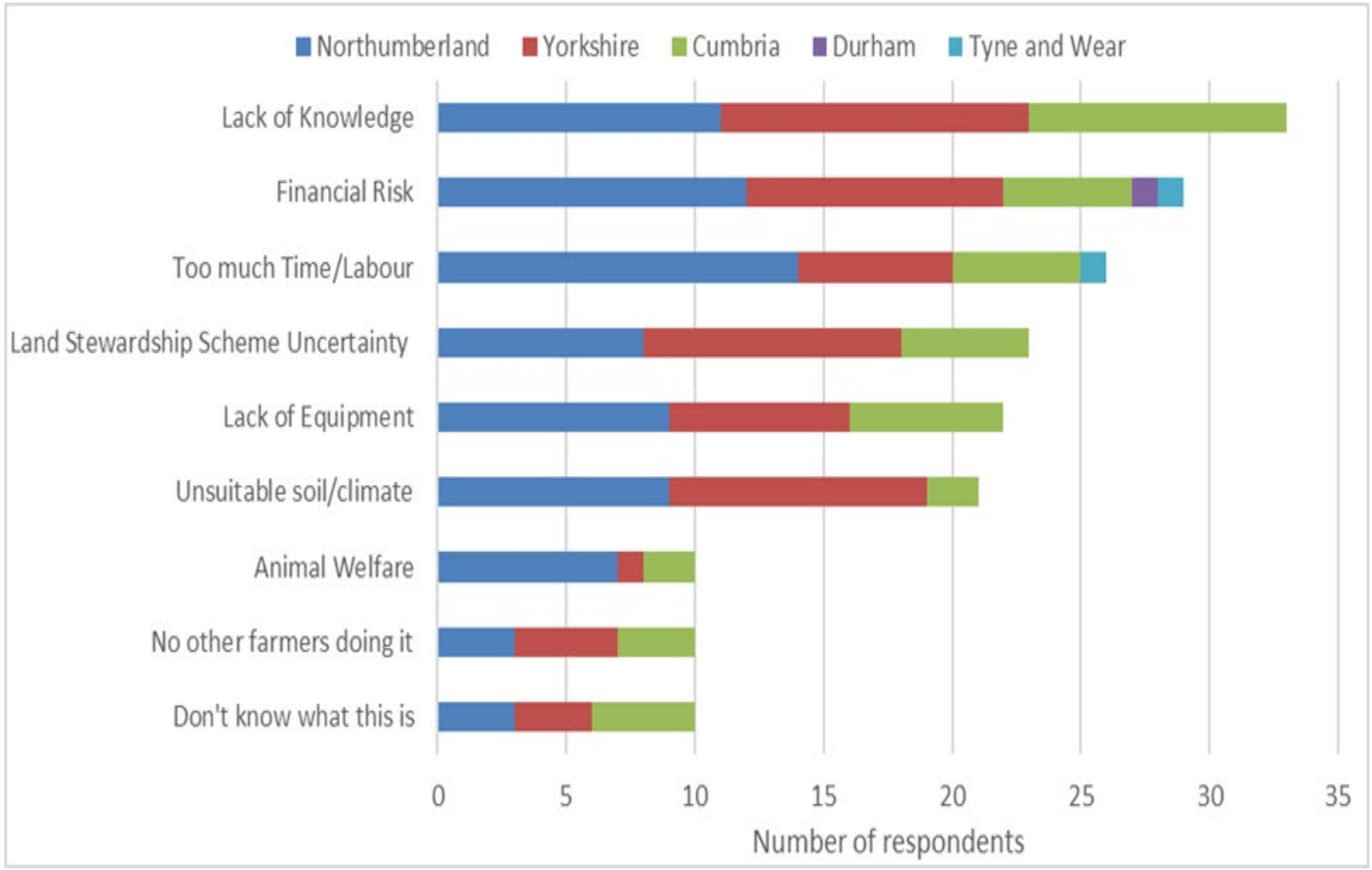
# RA practices used by respondents (N=62)

- reduced tillage intensity
- alternative cropping (i.e., cover cropping, diversified rotations, intercropping)
- organic practices (i.e., composts, green manures)



# What did we learn about barriers to uptake? (N=62)

- **main challenges**
  - lack of knowledge
  - financial risk
  - lack of time/labour
  - complexities of land stewardship options/schemes
  - lack of equipment
- **climate/soils not the main barrier**



## confirmation

- **of the gap in knowledge between agroecological principles and practices for many – but certainly not all – farmers**
- **Farmers were confused**
  - extreme increase in fertiliser and fuel prices
  - created an urgent need to respond to reduce costs without reducing output

# Workshop suggested solutions

- **Farmer's lacked knowledge – wanted context specific information**
  - clear farm specific operational and financial advice
  - derived from local, on-farm, field-scale trials
  - all results widely published
    - enables farmer-to-farming learning
    - allows "eyes-on" assessment

# Workshop suggested solutions

- **To lowering financial risk & lack of equipment**
  - cost-benefit analyses from farm trails
  - **revise** Defra's Farm Investment Fund's Farming Equipment and Technology fund to
    - include more "RA" equipment – types, sizes…..
    - reduce farmer % co-funding
    - make second hand equipment "eligible items"
- **Remove the farmers' lack of time/labour constraint**
  - clearer guidance on which RA option/combinations to use in their context
  - support for their own on-farm trials

# Workshop suggested solutions

- **Reduce the complexities of land stewardship options/schemes**
  - add more “RA” activities as ELMS environmental management options
  - provide evidence to justify “RA” transition payment
  - provide additional advice on
    - how options from different environment schemes can be “stacked”
    - help to find a path through plethora of “tree” schemes

# Workshop suggested solutions

- **clarification on private funding for ecosystem services**
  - which scheme should farmers access
  - what are the various contractual obligations, trust & liability
  - what are the long-term implications
- **Protracted discussion on**
  - whether it was worthwhile developing a RA marque
  - whether RA systems had to include livestock

# closing the gap in knowledge between agroecological principles and practical applications

- **Comments on two issues**

- Role of universities
- RA environmental management premiums

# Role of universities in closing the gap in knowledge between agroecological principles and practical applications

- **Complex trials to inform policy**
  - full monitoring of environmental impacts
  - cost and benefit analysis
- **Be advocates of RA**
- **Undertake trials of "riskier" RA options/combinations at field not plot level**
- **Provide advice to farmers to run their own on-farm trials**
  - establishing and managing trails
  - recording and storing data
  - interpreting and writing reports

# Models for supporting farmer-led, on-farm trials

**Innovative Farmers** - provides small grants for farmer-led, on-farm, field - scale trails for research and experiments


**Practical Farmers of Iowa** -provides finance and expertise in on-farm trials design and management

- farminars

# Existing RA price premium initiatives

- **"Regenerative barley" group**
  - ❑ 23 farmers in joint venture with Carlsberg UK & Marston's Plc
  - ❑ "RA" protocol developed with Ceres Rural

- **Heineken "insetting" Low Carbon Farming programme**
  - ❖ using RA approaches - reduce ghg emission from agriculture by 33% by 2030
  - ❖ Aim: carbon neutral value chain by 2040

- **Wildfarmed**
  - 43 farmers
  - Working with Matthews Miller
  - to "embrace regenerative approaches"
  - improve farm biodiversity, and soil condition and health

- **Soil Regenerative Agriculture Group**
  - ▪ 5 farmers
  - ▪ with SAC Consulting
  - ▪ developing management techniques, treatments, crops and crop rotations to enhance & protect their farm soils

# Defra's drift

- over-arching aim  of Defra's 25 year plan
  - **"to leave the environment in a better state than it was in 2018"** through *inter alia*
  - Farm Investment Fund  farming equipment fund
  - Farming transformation fund (slurry, robotics)
  - Farming Innovation programme (£28-56k)
  - The Green Strategy and Nature Markets (2023)

# Summary

- Defra declared they would **to leave the environment in a better state than it was in 2018** by
  - investing in sustainable practices
  - providing guidance and advice to allow farmers to make the right decisions for their circumstances
- **RA farmers wanted**
  - more investment in sustainable practices
  - more guidance to help them make the right decisions
- **So- a close alignment – is RA pushing at an open door?**
  - invest in more farmer led, on-farm research
  - to provide regionally specific evidence from field- and farm-scale
  - which is used to inform management decision and
  - justify including more RA practices into AES environmental management options

# Thanks and questions

# Surplus slides

Newcastle University

a quick introduction and summary

https://www.youtube.com/watch?v=9G4r6PUsgCQ

# Introduction – overarching agriculture & environmental policy

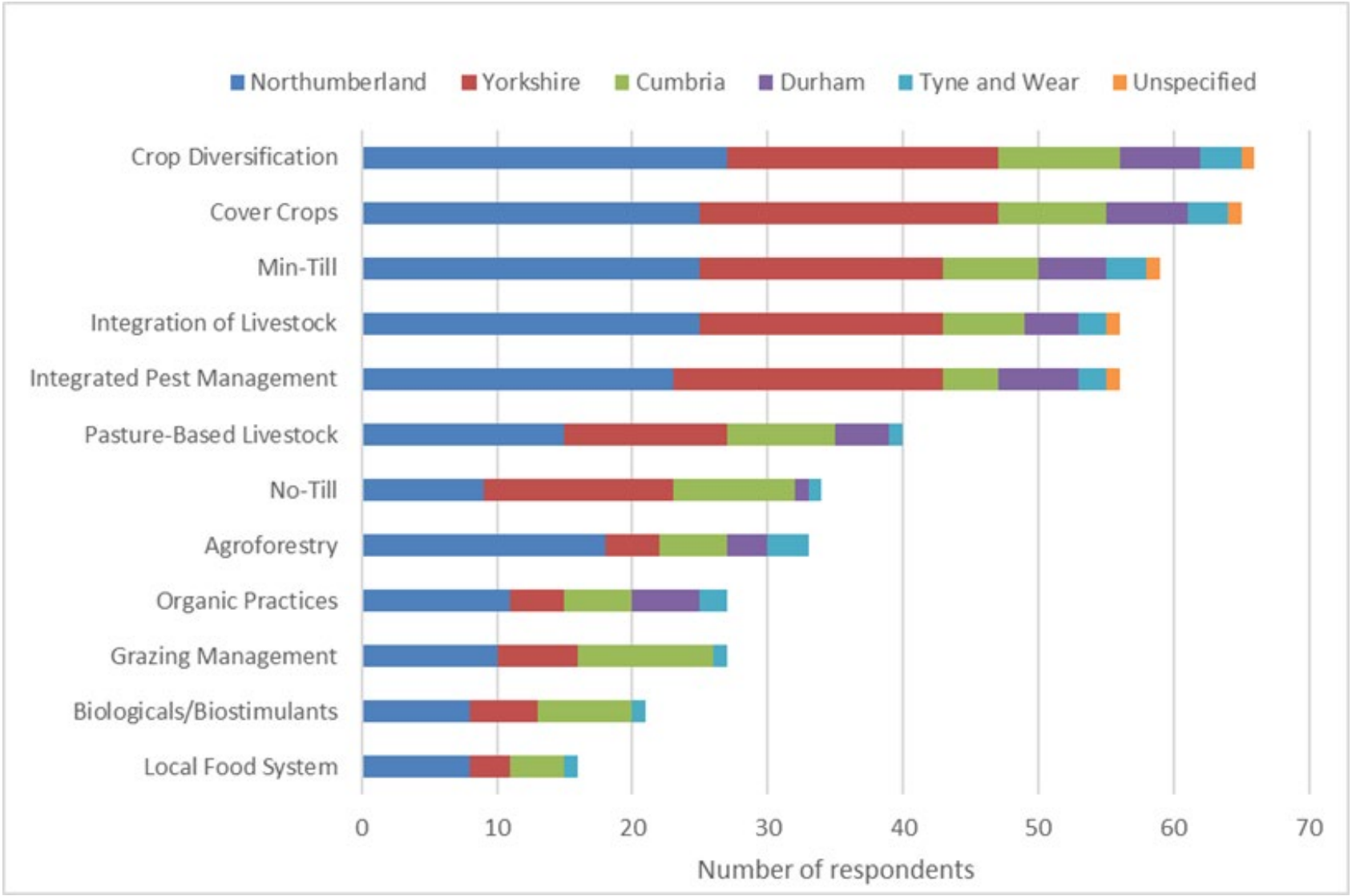
- **“to leave the environment in a better state than it was in 2018” (25 year plan)**
- by
  - supporting agri-environment schemes (CSS and ELMS)
  - improving productivity - by investing in research into sustainability
  - providing evidence and guidance to farmers to help them make the right decisions

# Barriers – in more detail

- **lack of farm-specific knowledge & the importance of context**
- **lack of financial cost benefit information**
- **need help to measure and record environmental impacts**
  - over the long term
- **lack of time/labour**
- **uncertainty of how to introduce new RA techniques**
  - especially with respect to livestock enterprises and investment in equipment
- **help to provide evidence to include RA in AES options**
  - need monitoring and recording protocols
- **agroforestry options can disadvantage tenant farmers**
- **any private environment markets are untried and untested**
  - long term commitment
- **is it worth developing a RA marque?**

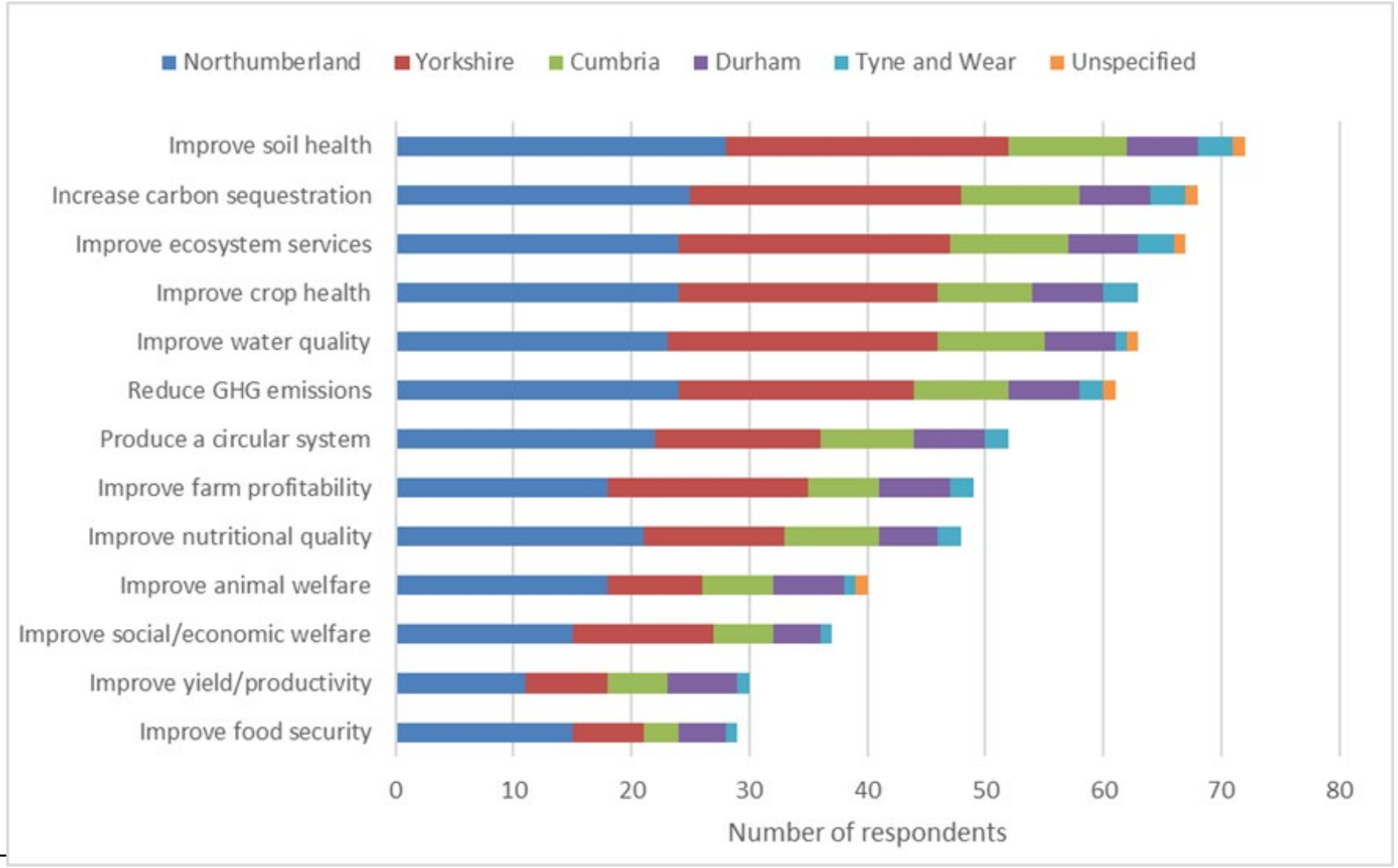
# What did we learn about regen ag definitions?

- Respondents defined regen ag in terms of these practices…

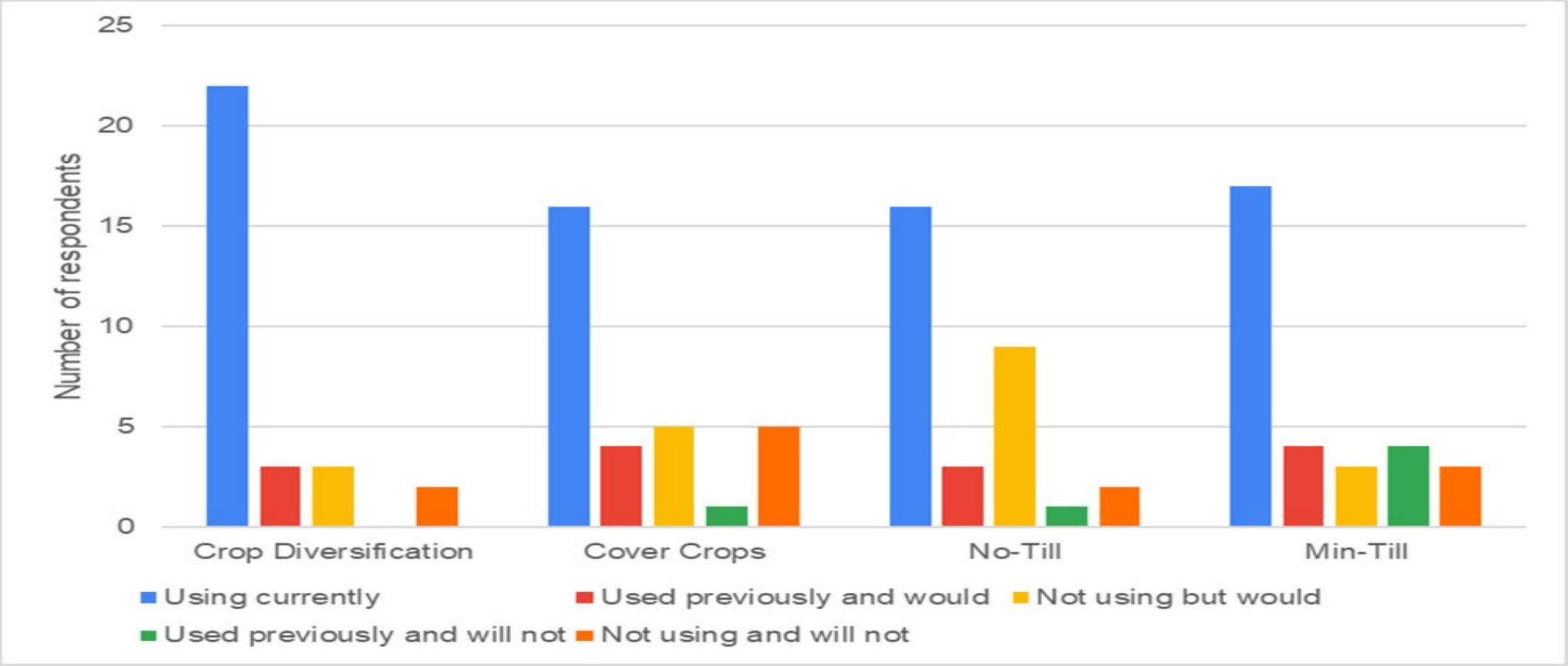


# What did we learn about regen ag definitions?

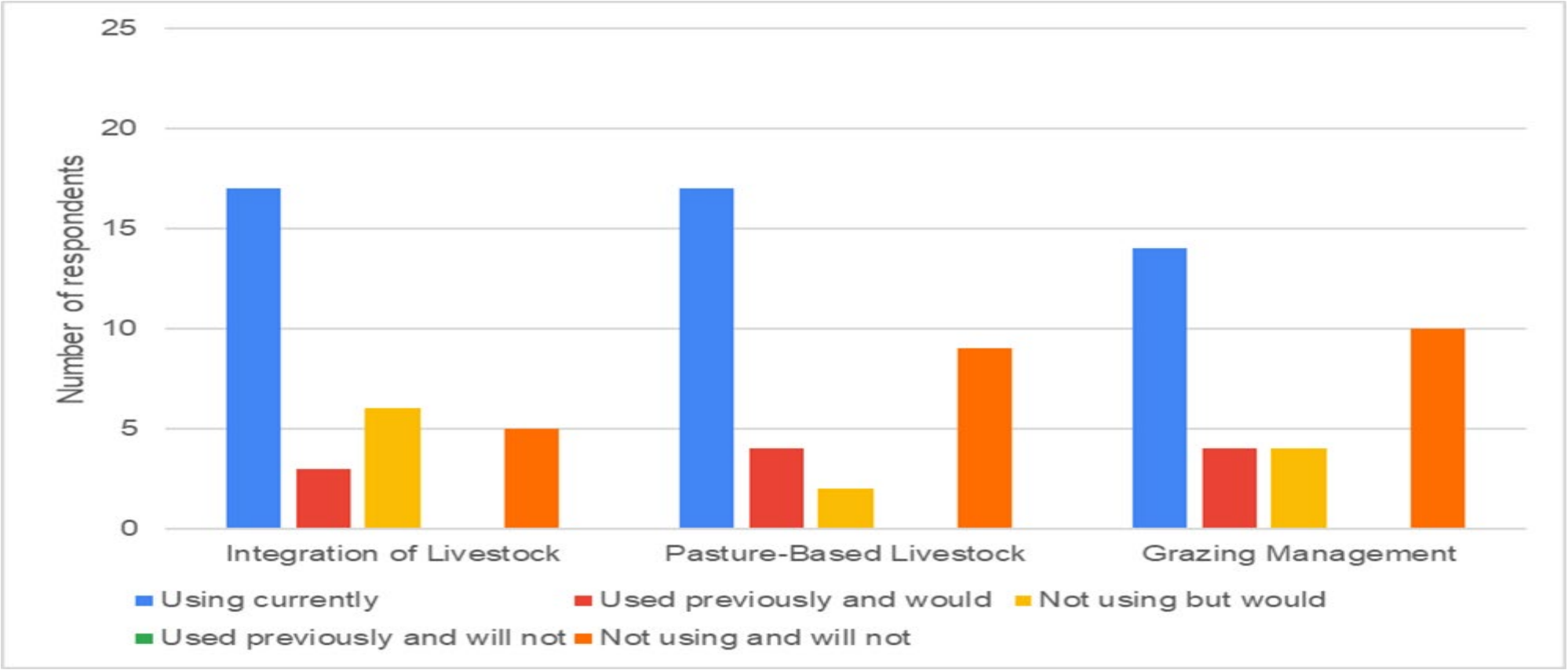
- And these outcomes…



# *Figure 1 Use of cropping and tillage practices reported by farmer respondents to the online survey (N=62)*



# *Figure 2 Integration of livestock and management practices reported by farmer respondents to the online survey (N=62)*



# *Figure 3 Use of alternative management practices and strategies reported by farmer respondents to the online survey. IPM=integrated pest management; bio-stimulants included biologicals (N = 62).*