Agricology Field Day
Mixing it Up: Leys, livestock and arable
Daylesford Farm, 3rd January 2018

AGRICOLOGY
SUSTAINABLE PRACTICAL FARMING

daylesford FOUNDATION

Game & Wildlife CONSERVATION TRUST
The Allerton Project

ORGANIC RESEARCH CENTRE
ELM FARM

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Plan of the day

10.00: Welcome
10.20: Livestock health and breeding for low input
10.55: Ley species selection for multiple functions
11.20: Impact of leys on weed management
12.00: Monitoring the impact on soil health
13.00: Lunch
13.30: Bus departs for Oxford
14.00: Optional extended farm tour

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Ian Boyd, Whittington Lodge Farm

Herbal leys and pasture fed livestock in arable systems


PASTURE
FOR LIFE

Tom and Debra Willoughby,
Grange Farm

Experimenting with ley species mixtures for dairy forage and soil health


What are we trying
Lucerne
Sainfoin
Multi-species legume mix
Multi-species ley

- Why multi species
- Diversity
- Effect on soil
- Rooting depth
- Seasonal growth
- Availability of minerals

Trials with multispecies leys at Grange Farm

- We drilled four trial plots over four acres
- Spring sown with barley as a cover crop.
- Looked at yields, soil structure and roots.

A. Red clover rye grass. merviot, milvus, abermagic

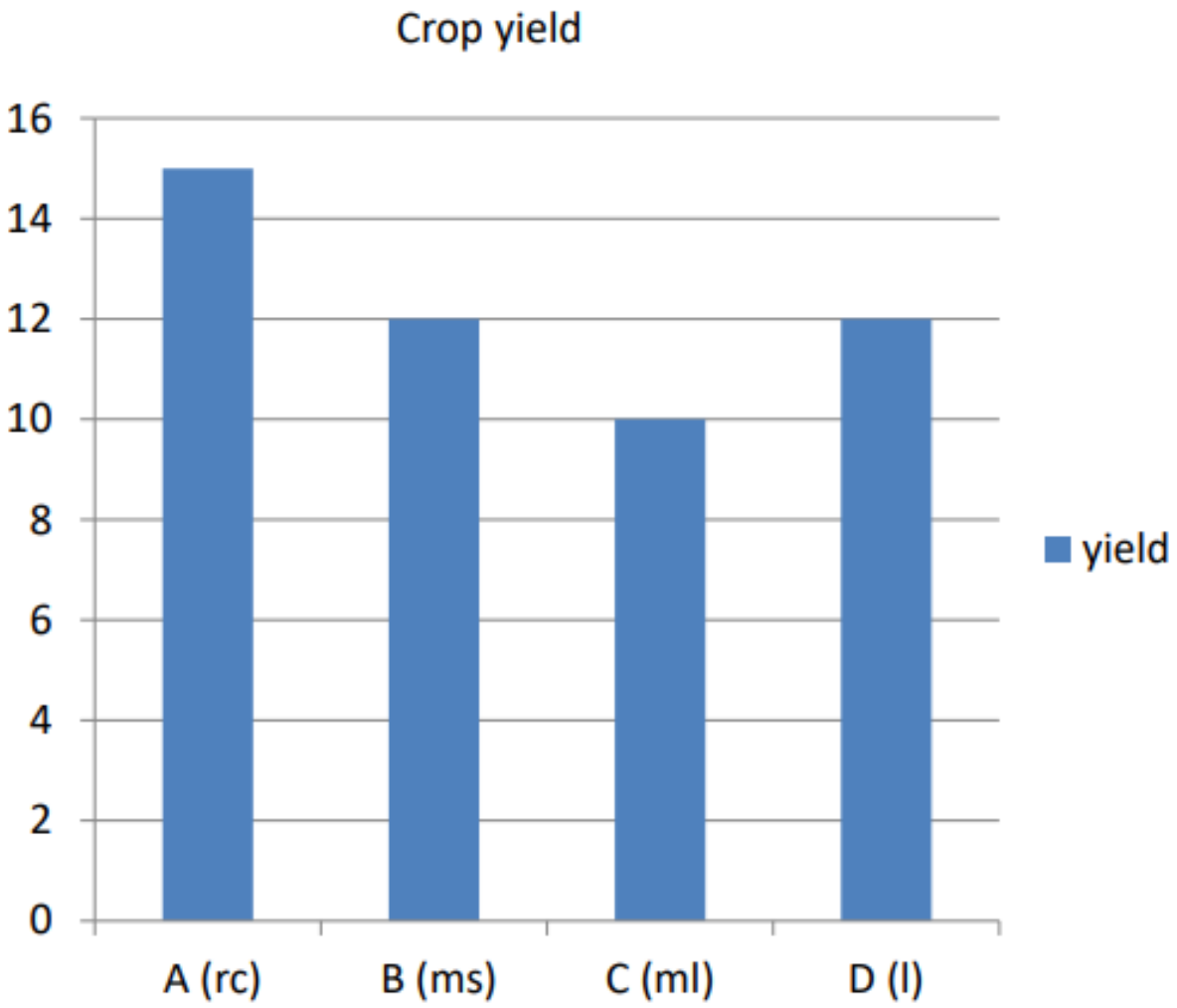
B. Multi species ley. chicory, cocks foot, meadow fescue, perennial rye grass, plantain, red clover, red fescue, timothy, white clover, yarrow

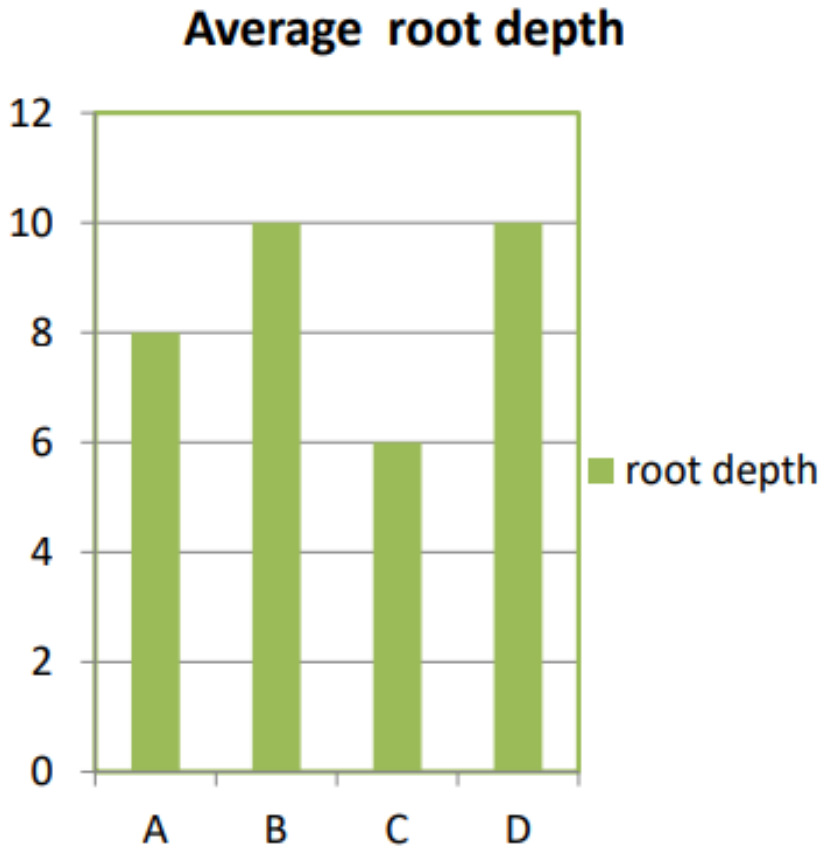
C. Multi species legume. birds foot trefoil, sainfoin, white clovers, perennial rye grass

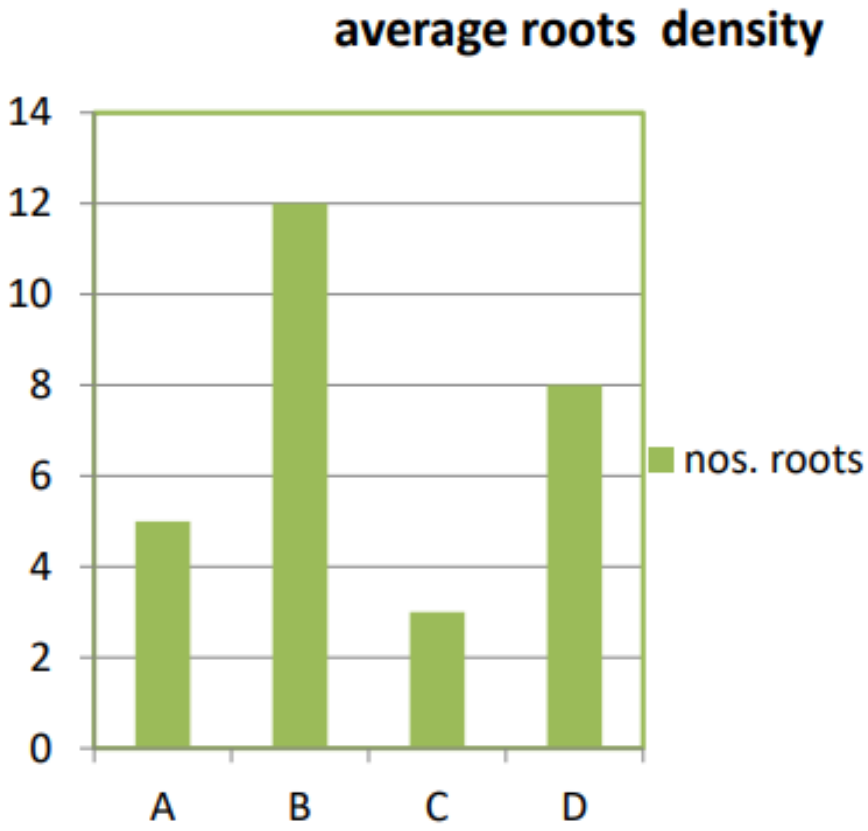
D. Lucerne mix. Timbale, Galaxie, red fescue

Seed costs

- A . Red clover . mix £71 Three year life.
- B. multi species ley £100 Five plus year
- C Multi species clover £74 Five plus year
- D Lucerne mix £ 70 Three –five year


Crop yield
16
14
12
10
8
6
4
2
0
A (rc)
B (ms)
C (ml)
D (l)
yield





Multi-species significant no. of active roots at 8 inch compared with other treatments .

Sophie Alexander, Hemsworth Farm

Integrating livestock to graze herbal leys / cover crops and manage arable weeds

1st year multi species ley

Vetch and ryegrass overwinter cover

Beans undersown with white clover

Strip grazing winter silage

Strip grazing winter silage

Soil condition after winter silage bales

Charlock in overwinter cover

Love the effect sheep have!

This is what happens without undersowing / winter cover!

Richard Gantlett, Yatesbury House Farm

Diverse leys and building soil organic matter

https://www.agricology.co.uk/farmers-and-growers/richard-gantlett

https://www.youtube.com/watch?v=HOJyrhA-14g&t=155s

Dr Lizzie Sagoo, Soil Scientist
ADAS

Monitoring the impact of leys on soil health

What can we do to maintain and increase SOM?

LIVESTOCK

CO_2

VEGETATION

OM
(roots/residues/
manures)

CO_2

CH_4

SOIL ORGANIC MATTER

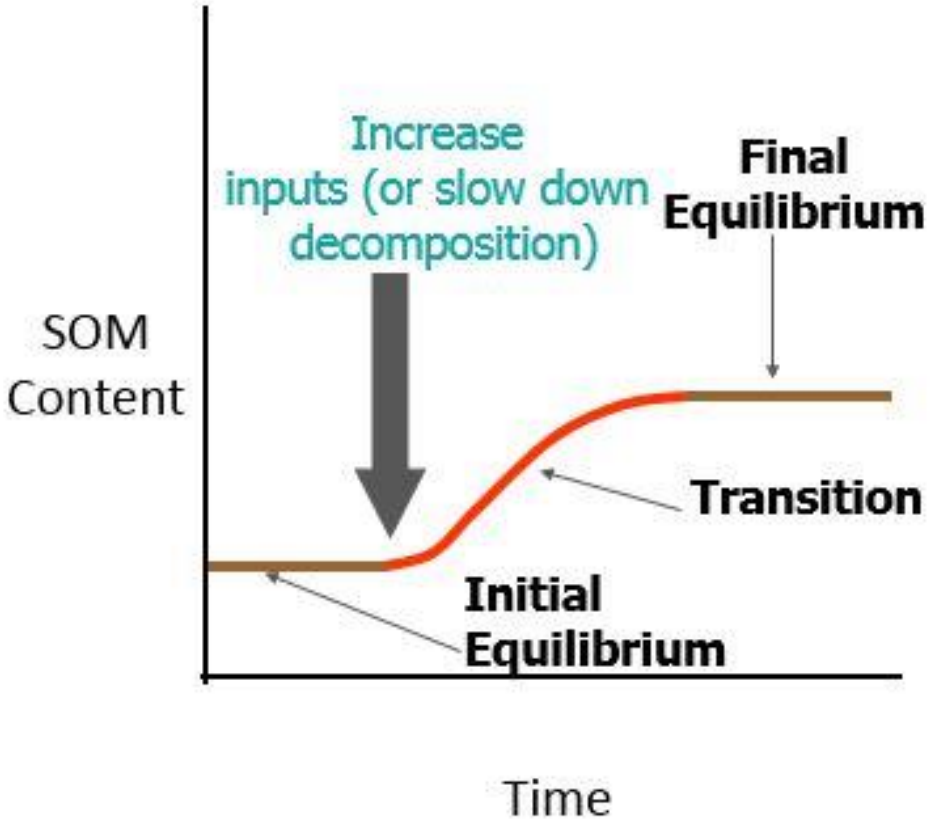
REDUCE LOSSES

Dissolved OM;
Sediment

SURFACE & GROUND WATERS

INCREASE INPUTS

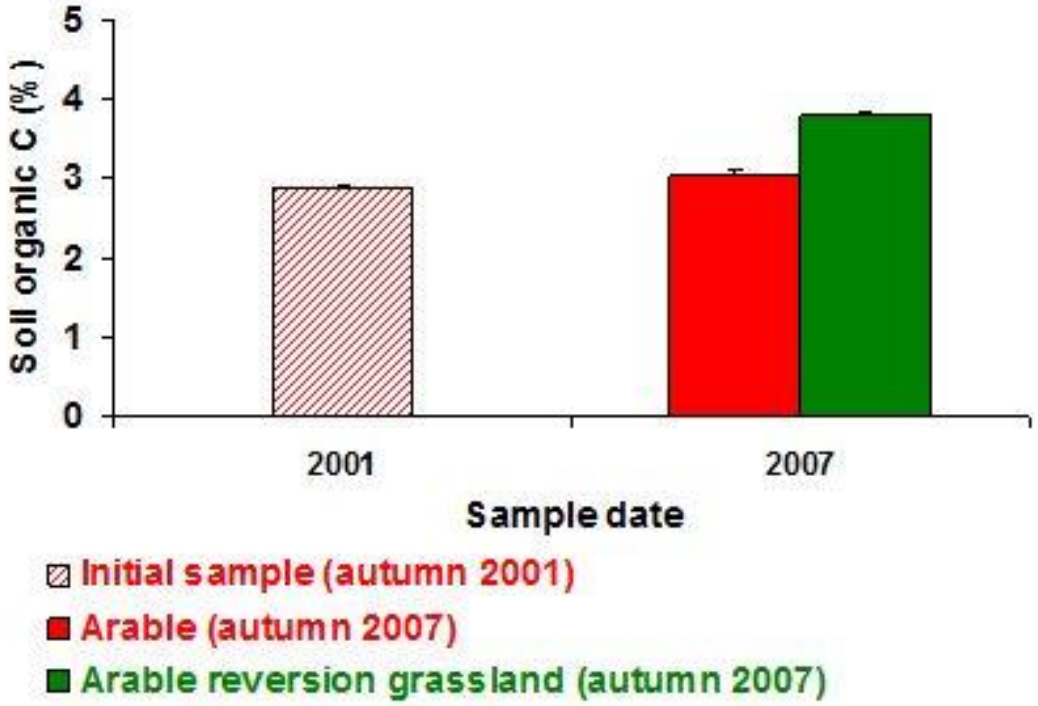
SOM accumulation rates change over time



- Annual rate of increase declines as a new equilibrium is reached
- SOM will not accumulate indefinitely

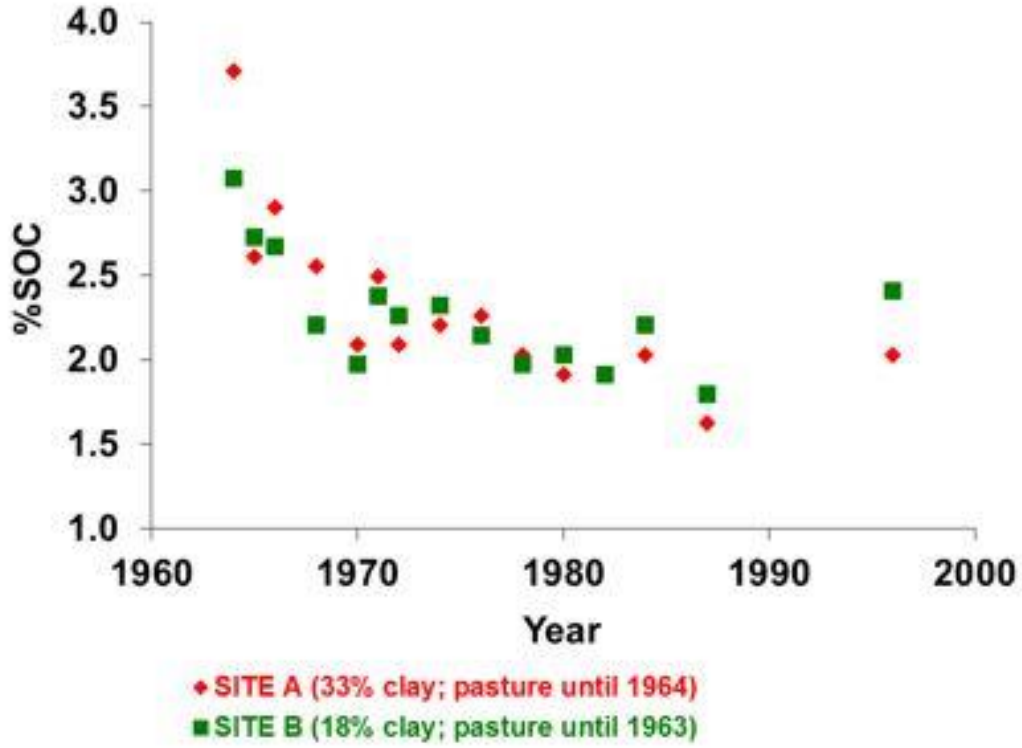
Introducing grass into the rotation:

Increase in SOC following arable reversion to ungrazed grassland



24% increase in SOC after 6 years of arable reversion to grassland (heavy clay soil)

Decline in organic matter following ploughing grassland



WHO ARE WE?

Independent collaboration of the UK's leading organisations…

…Sharing and promoting practical, sustainable farming information…

…Regardless of labels

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ABOUT US

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HOW CAN YOU PARTICIPATE?

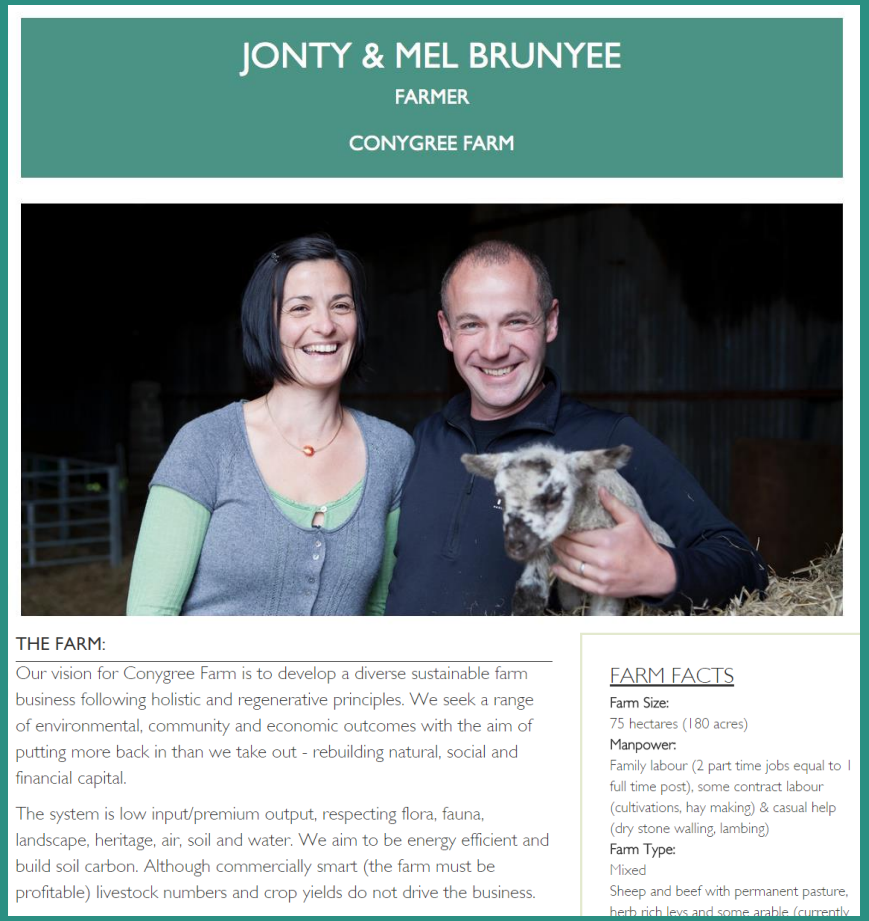
Share insights with your agricultural community via blogs and farmer profiles.

FARMERS & GROWERS PROFILES

FARMS PUTTING SUSTAINABILITY INTO PRACTICE

IAN HARRIS | CHRISTINE PAGE | MAURICE MCHENRY | ANDREW HOWARD

ANDREW BURGESS | JOHN RENNER | TIM MAY | JONTY & MEL BRUNYEE



JONTY & MEL BRUNYEE

FARMER

CONYGREE FARM

THE FARM:

Our vision for Conygree Farm is to develop a diverse sustainable farm business following holistic and regenerative principles. We seek a range of environmental, community and economic outcomes with the aim of putting more back in than we take out - rebuilding natural, social and financial capital.

The system is low input/premium output, respecting flora, fauna, landscape, heritage, air, soil and water. We aim to be energy efficient and build soil carbon. Although commercially smart (the farm must be profitable) livestock numbers and crop yields do not drive the business.

FARM FACTS

Farm Size:
75 hectares (180 acres)

Manpower:
Family labour (2 part time jobs equal to 1 full time post), some contract labour (cultivations, hay making) & casual help (dry stone walling, lambing)

Farm Type:
Mixed
Sheep and beef with permanent pasture, herb rich leys and some arable (currently

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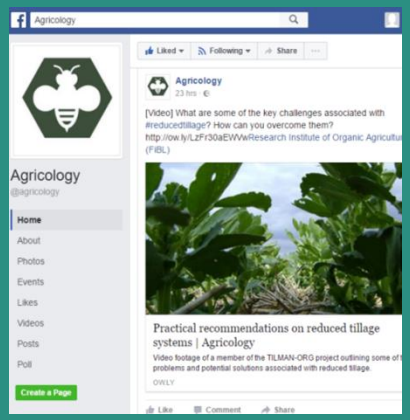
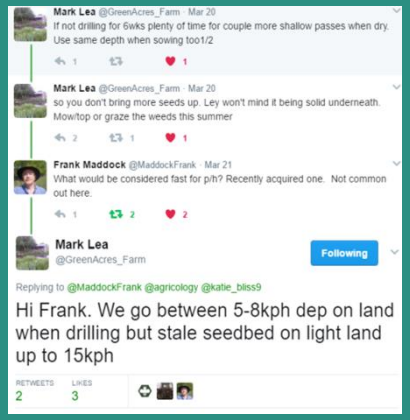
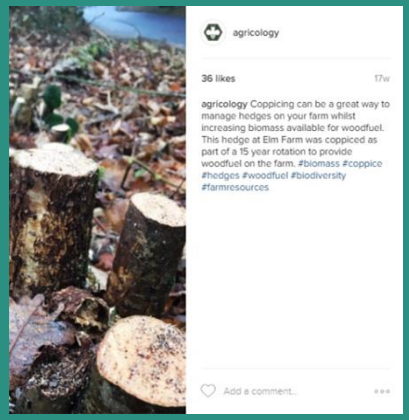
HOW CAN YOU PARTICIPATE?

Use @agricology to join in the conversation.







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