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# About me

- Ten years of soil biology and soil health experience.
- Working with agricultural grassland and arable crops.
- Last three years the focus has been cover crops and sustainable intensification.
- Now teaching MBA Leadership in Sustainable Food and Agri-business and MSc in Sustainable Rural Policy and Strategy – new courses starting September 2019.



Soils are home to a quarter of all living species on earth!



The poor man's tropical rainforest?

One hectare  
of soil has the  
equivalent to  
**FIVE TONNES**  
of soil fauna



One cow of  
bacteria



Two sheep  
of  
protozoa

Four rabbits of  
mesofauna



# Importance of EARTHWORMS



90% of water infiltration wouldn't be possible without earthworms!



Up to 3 tonnes per ha

# Ecosystem engineers – earthworms

- Meta-analysis found earthworms increased CROP YIELDS up to 25% when comparing a field with earthworms vs one without.

(van Groenigen (2014) Scientific Reports 4, 6365)

- Knowing how many earthworms you have is a quick and easy gauge of soil health.
- Three different functional groups – surface dwellers, horizontal burrowers, vertical burrowers, all work together to improve soil structure and health.



# How do we harness soil biology to help increase soil health?

- Provide food
- Limit soil disturbance
- Reduce compaction
- Cover crops
- Green manures
- FYM / Slurry
- Reduce tillage
- Control erosion
- Limit vehicle movements
- Low pressure tyres

