

Establishment of a farm network to investigate the long-term impacts of leys in rotations

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Background

- Integration of grass and herbal leys into arable rotations can provide benefits to both arable and livestock farmers.
- Temporary grass/herbal leys have the potential to improve soil organic matter content, which in turn will improve moisture retention and nutrient status and decrease soil erodibility.

Network

- In 2018, ADAS, AHDB and Defra launched the Grass and Herbal Leys Farm Network. The network is a partnership between farmers, researchers and industry, and aims to provide a platform to investigate the long-term impacts of leys in rotations including impacts on soil quality.
- There are currently (Feb 2021) 253 individuals registered with the network; 44% are farmers, 17% on-farm advisors or agronomists, 14% researchers and 25% 'other' representatives from industry and organizations including AHDB, Defra, Natural England and Catchment Sensitive Farming.
- Network partnership meetings were held in Apr 2018 and Feb 2020. Main priority areas for research identified included sward composition, grazing management, methods of sward destruction and impacts on following arable crops.

Web based survey

- An on-line survey has been used to collect information on management of leys including length of leys, grass management, establishment & destruction techniques (Fig. 1).
- 191 people have so far responded to the survey; 46% are farmers and 76% of these have leys as part of their rotation.
- A range of soil types and agro-climatic conditions are represented by the network – from North East of Scotland to South West England.
- Just under 90% of farmers who responded said improvements in soil quality were an important factor in their use of grass/herbal leys and 49% said the leys helped them control black-grass

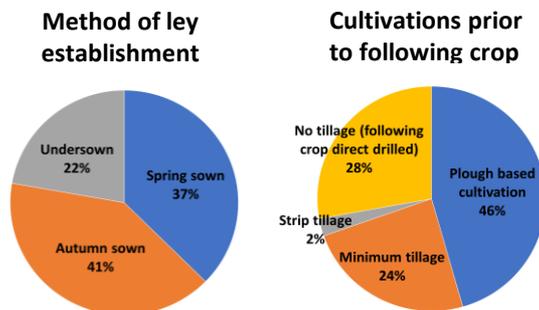


Figure 1. Management of grass and herbal leys

Case study – Little Morton Farm

- Deep loamy sand soils were sampled from 3 adjacent fields at Little Morton Farm, Retford: in long-term arable, a 4-yr ley & permanent pasture.
- There was clear evidence of the benefit of grassland to soil carbon, with low concentrations measured in the arable topsoil, a small increase following a 4-year ley, but substantial improvement after 10 years of permanent pasture (Fig. 2).

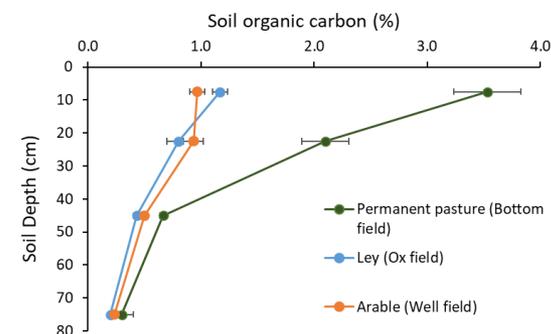


Figure 2. Effect of land use on soil organic carbon

Conclusion

- The network provides a valuable platform for current and future projects investigating the long-term rotational benefits of leys.
- 60 farmers with leys said they would be willing to take part in monitoring on their farms.