

2024 Masters in Agricultural Innovation Support

Project Summary

1. Project Title and Associated Programme

Project title

The role of advisors in supporting locally led cooperation between livestock and tillage farming systems

2. Project background

Since the 1960s, crop and livestock production has become increasingly specialized and less connected. The consequences of this development are, among others, higher regional concentrations of animals, large-scale imports of feed, simplification of crop rotations, higher use of mineral fertilizers and pesticides, and landscape homogenization. This has contributed to water contamination, loss of soil quality, climate change and decline of biodiversity. The (re)-integration of crop and livestock farming systems offers the possibility to reduce emissions, be more efficient at using natural resources, reduce external inputs (e.g., pesticides, mineral fertilizers and imported feed), be more resilient and contribute to, the maintenance and restoration of biodiversity. Use of locally produced feed instead of imports, crop residues and use of livestock manure/effluents instead of synthetic N-fertilizer may contribute to reduced greenhouse gas (GHG) emissions and nutrient loss from the agricultural landscape.

Integration of cropping and livestock systems can reduce the requirement for external inputs of feeds and fertilisers with high carbon footprints. Examples include recycling of animal wastes as organic fertiliser, crop residues and appropriate cropping rotations in livestock systems to reduce nutrient losses and improve productivity.

In Ireland, recent debate on nitrate loss in Irish agricultural has led to polarisation of livestock and arable farming groups. There is a requirement for all farming sectors to work together where the benefits can be reciprocal and help the sector to meet our national environmental targets.

3. Project aims and objectives

The overarching aim of the study is to see how local advisors can help integrate tillage and livestock farmers in actions that will have production benefits for both parties and help reduce the environmental impact of both farming systems.

This will be achieved through the following research objectives:

1. Establish and document how dairy and drystock advisors link with tillage advisors locally to facilitate coordinated actions across farms (slurry movement, FYM, straw trading, grain trading, forage crop grazing etc.)
2. Explore options for improving integration of advisory (tillage and livestock advisors) and farm practice (tillage and livestock farmers) that is practical and sustainable for all parties

3. Conduct key informant interviews with relevant stakeholders: KT specialists, DAFM, local authorities, coops.
4. Recommendations on KT methods that can be brought forward into current advisory which must be sustainable and smart, efficient etc.

4. Suggestions for methodology

A mixed methods approach will be used in this study to achieve the stated objectives:

1. The student will complete an initial immersion period in January 2025 in the designated advisory office and attend ACP KT initiatives.
2. Key informative interviews will be conducted with advisors, KT specialists, DAFM, local authorities and co-ops.
3. A farmer survey and/ or focus groups will be conducted to see what current trading practises are in place and what trading practices might be required between local farmers and ascertain their perspectives on how this can be improved and streamlined.
4. Report on potential improvements that can be made in advisory based on the key informative interviews and farmer surveys
5. Focus group with advisory staff to get feedback on proposed improvements.
Recommendations for KT directorate

5. Expected impact of the project

The student will work within the Agricultural Catchments Programme, which is an already established integrated research and advisory programme. The proposal aligns with the overall objective of the Teagasc Environment KT department which is to support the sustainable development of the Agri-food industry through the delivery of high quality environment knowledge transfer programmes and services by:

- Improving our farmers skills in managing soils and improving soil fertility
- Improving water quality in high risk agricultural catchments

In addition it will support a number of the objectives of the Crops KT department:

- To transfer sustainable science based advice to maximise farmer profits and support the wider crops sector
- To support KT activities for all crops
- To provide information/catalysis for change

6. Other relevant information