



Diverse Forage Systems and Lamb Finishing Strategies for Sustainable Lowland Sheep Production

Walsh Scholars Reference Number: 2026022

University: University College Cork (UCC)

Funding: Teagasc

Research Institution: Teagasc

Location: Teagasc Athenry, Co. Galway, Ireland

Proposed Start Date: September 2026

Project Summary

In 2025, Ireland exported approximately 51,000 tonnes of sheep meat, representing over 80% of national production and contributing over €360 million to agri-food exports. Ireland's temperate climate provides a natural competitive advantage, supporting efficient, pasture-based ruminant production systems. However, under the Climate Action and Low Carbon Development Bill, the Irish agricultural sector must achieve a 25% reduction in greenhouse gas emissions by 2030, while simultaneously meeting the growing global demand for animal protein. At the same time, increasing resistance to chemical anthelmintics has highlighted the need for alternative strategies to control gastrointestinal parasites in lambs, with pasture composition and management increasingly recognised as important tools in controlling parasite burdens. Future pasture-based systems must therefore transition towards lower input swards.

The post-weaning period remains a critical challenge in sheep production systems, as lamb growth rates can be compromised by declining perennial ryegrass sward quality and gastrointestinal parasite burdens, making it difficult to efficiently finish lambs at pasture. Incorporating legumes and herbs into grass-based swards offers the potential to enhance animal performance while reducing reliance on chemical nitrogen fertiliser. Including hybrid brassica crops can extend the grazing season, reducing the requirement for concentrate supplementation in lambs post-weaning.

The aim of this project is to evaluate a range of botanically diverse swards and lamb finishing strategies for their potential to improve the sustainability of Irish pasture-based sheep production systems. The study will assess the impact of these systems on: (i) animal performance and output, (ii) sward production, quality and utilisation, (iii) gastrointestinal parasite burdens in lambs, (iv) nitrogen leaching and nitrous oxide emissions, and (v) enteric methane emissions and dry matter intake. In addition, a total farm gate analysis will be conducted to determine the economic and environmental viability of each forage system and lamb finishing strategy, providing practical insights for the future of sustainable sheep production in Ireland.

Supervision

The project will be supervised by Sarah Woodmartin at Teagasc, whose research focuses on pasture-based livestock systems. Co-supervision will be provided by Deirdre Hennessy at University College Cork, contributing complementary university-based expertise in animal and grassland science. Together, the supervisory team integrates applied pasture research with academic training, providing a strong and coherent supervisory framework for the project.

Research Environment

You will be registered at University College Cork and based at Teagasc Athenry, a centre of excellence for sheep systems research, for the duration of your studies. The project offers access to experimental farm platforms, long-term pasture trials, and a strong interdisciplinary research community.



As a Walsh Scholar, you will benefit from engagement with national and international research networks, regular seminars, and opportunities to collaborate with researchers across grassland science, animal production, environmental sustainability, and farm systems research.

Career and Training Opportunities

The Teagasc Walsh Scholars Programme provides a structured four-year training and development framework designed to support both academic excellence and long-term career readiness. Scholars develop advanced scientific and analytical expertise alongside transferable skills in communication, project management, and stakeholder engagement through expert-led training, workshops, and tailored professional development. University College Cork provides a range of postgraduate training modules to support the development of relevant research and transferrable skills.

Opportunities are provided to present research at national and international conferences, supporting professional networking and active engagement with the wider research community. Dedicated final-year career supports focus on preparing Scholars for impactful roles across research, industry, advisory services, and policy, in Ireland and internationally.

Through the Teagasc International Training Awards, scholars may undertake an international research placement of up to 12 weeks aligned with their PhD project. Outstanding achievement may also be recognised through the Walsh Scholars of the Year and Gold Medal Awards, and UCC School of Biological, Earth and Environmental Sciences Publication of the Year.

Candidate Profile and Eligibility

Applicants should ideally:

- Hold a First or 2.1 Honours degree (or Master's) in agricultural science, plant science, animal science, or a related discipline
- Demonstrate experience in field- and/or laboratory-based research, with strong data handling and analytical skills
- Show the ability to apply multidisciplinary approaches to hypothesis-driven research
- Possess excellent written and verbal communication skills and the ability to work effectively as part of a team
- Be willing to engage in on-farm fieldwork and stakeholder interaction
- Hold a full, clean driving licence valid in Ireland
- Meet UCC postgraduate entry requirements, including English language requirements where applicable

Funding Details

This is a fully funded four-year PhD funded by Teagasc, including:

- €25,000 annual stipend
- University fees covered up to €6,000 per annum

How to Apply

Applicants should complete the [online application form](#) by **5:00pm on Wednesday, 18 March 2026**. Applications must include a curriculum vitae and a 1–2 page statement of motivation submitted as part of the online application.

Interviews

Shortlisted candidates will be invited to interview in **early to mid-April 2026**. Online interviews can be accommodated.



Further Information

Informal enquiries are welcome and may be directed to: Dr Sarah Woodmartin – sarah.woodmartin@teagasc.ie; Dr Deirdre Hennessy – deirdrehennessy@ucc.ie

Further information on the Walsh Scholars Programme is available at:

<https://www.teagasc.ie/about/research-innovation/the-walsh-scholars-programme/about-the-programme/>