

MAgrSc INNOVATION SUPPORT PROGRAMME 2020-2022

Study Title: *Effective teaching and learning strategies with the potential to enhance sustainable farming knowledge and skillsets amongst Teagasc full-time agricultural students*

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Study Background



- **Sustainability** can be defined as ‘the maintenance or enhancement of production levels while safeguarding natural resources in accordance with economic viability and social acceptability’ (Greenland, 1997).
- **Sustainable Agriculture** is defined as ‘a farming system that enhances environmental quality, is economically viable and enriches the quality of life for farmers and society as a whole’ (Abubakar and Attanda, 2013).
- Ireland has committed to achieving net zero carbon emissions by 2050 and in turn create a resilient, vibrant, and sustainable country through measures outlined in Agenda 2030 and the Paris Agreement

Study Rationale



Teagasc Education Vision Report 2018:

- **Goal 4:** *‘Develop learners’ knowledge, skills and competence to meet the changing requirements of the 21st Century land sector occupations’.* (Teagasc, 2018, p61.)
- **-Goal 8:** *‘Adopt innovative teaching and learning methodologies, delivery approaches and learner supports that will enhance the capabilities of Teagasc learners in a holistic way’.* (Teagasc, 2018, p64.)
- Education is key to developing an awareness among agricultural graduates of their role in maintaining and enhancing the rural environment.

Study Aim and Research Questions



Study aim:

- To identify teaching and learning strategies that are most likely to:
Resonate with Teagasc full-time agricultural students and advance their thinking and capabilities regarding the importance of sustainable farming practices and the implications for farming systems and on-farm practice.

Research questions:

- What are full-time agricultural students and teachers' current perceptions and understanding of sustainable farming practices?
- What teaching and learning methods are currently being employed to enhance students' knowledge and understanding of sustainability issues?
- What teaching and learning approaches have the potential to enhance agricultural students' knowledge and understanding of sustainability issues?

Study Objectives

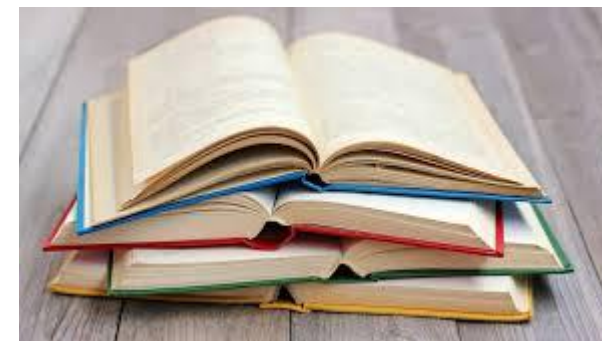
- 1) Identify full-time agricultural students and teachers' current perceptions and understanding regarding sustainable farming practices.**
- 2) Identify teaching and learning approaches currently being implemented by Teagasc and peer agricultural education institutions in regard to agri-environmental sustainability.**
- 3) Determine teaching and learning approaches that have the potential to enhance students and teacher's perception and understanding of sustainability.**
- 4) Propose a learning toolkit based on sustainable resource management for Teagasc educators based on feedback from Teagasc learners, staff, and peer institution approaches.**

What the Literature is Saying

“Post-secondary sustainable agriculture education curricula should foster teaching and learning approaches that link the classroom to field work, as students learn best through holistic educational experiences.”
(Parr et al., 2007)

“Top ranked methods for teaching sustainable agriculture include; group discussion, hands-on-learning, project-based inquiry, and websites”. (Sameipour, 2017)

“Farmers prefer learning from peers and experts who have experience with their situation”.
(Franz et al., 2010)



“The greatest challenge for today’s teachers and students of agriculture is to move beyond the ‘doing’ and ensure that all learning is connected to thinking and knowledge that will be easily remembered and applied later in life”
(Baker et al., 2012)

Study Methodology

Questionnaire

- Students and teachers within Teagasc

Focus Group

- Online focus group with teachers from the 3 chosen colleges
- Possibly student focus group in Kildalton

Semi-Structured Interviews

- Possibly with identified peer agricultural education institutions

Study Population



- Level 5 students in 3 agricultural colleges – Kildalton, Moutbellew, Clonakilty/Ballyhaise
- Teachers responsible for delivery of 2 chosen modules; ‘Soils and the Environment’ and ‘Sustainable Farming in the Environment’ (n~10)
- Possibly key informatives from peer institutes e.g. SRUC, CAFRE

Practical utility of this study to the advisory/education service



- This study will provide important guidance to enable Teagasc to achieve goal number four in the Teagasc Education Vision Report:
- **‘Develop learners’ knowledge, skills and competence to meet the changing requirements of the 21st Century land sector occupations’** (Teagasc, 2018)

Schedule of Activities (Work Plan)

(January 2021 – March 2022)

