

**Animal Research Programme –  
Sustainable Production Systems and System Analysis  
RMIS No: 6241**

**Title**

Development and evaluation of Life Cycle Assessment technologies for the Irish Dairy Industry

**Abstract**

Food Harvest 2020 has set high standards for increased milk production (50%) as well as increases in output value of the order of 40% from the beef sector. These targets will be constrained by legislative pressures whether implemented at national level via a Climate change bill, at EU level via EU legislation or Globally via a follow up to Kyoto. Measuring the environmental impact of animal production systems is difficult and expensive. Therefore, whole farm modelling is a cost effective and relatively accurate approach to simultaneously evaluate greenhouse gas emissions and profitability of agricultural systems. A number of whole farm models have been developed in Teagasc to address these issues for specialised milk production systems, which are compliant with present national greenhouse gas accounting procedures and also life cycle assessment. This project will further develop these models to assess greenhouse gas emissions and economic performance of systems of production with specialised dairy or dual-purpose breeds as well as alternative systems of production. In addition, the models will be developed to facilitate a carbon audit of commercial farms. The application of the audit will provide a reference for policy-makers on the carbon footprint of Irish dairy farmers and be an initial step in advising producers on how they can reduce their individual carbon footprint.

**Project Leader:** Laurence Shalloo  
**Start Date:** 1 January 2012  
**Expected Finish date:** 31 December 2015