

**Life Cycle Assessment of Greenhouse Gas Emissions from
Ruminant Agriculture
7 October 2009**

Summary Notes of Workshop Discussions

Question 1 Should we use LCA as an integrated assessment tool of the environmental impact of livestock systems?

- 1) Appropriate tool depends upon objectives
 - To evaluate the impact of policy development
 - To reduce GHG emissions
 - To improve profitability
- 2) Concept of tools with differing measurable components
 - LCA = benchmark tool for GHG emissions but also enables assessment of impact on other important environmental parameters
 - Critical that answers obtained from use of tool are consistent
- 3) Tool should then encourage best practice
 - educate /improve
 - measure and demonstrate impact of improvements to legislators

At this stage, focus should not be on the absolute number (given inaccuracy of measurement and differences between different systems). Does the number mean anything? Are we comparing apples and oranges when comparing different carbon footprint systems?
- 4) Tool must meet objective. General consensus is that LCA, as used currently, is a blunt tool to assess overall GHG emissions, useful in highlighting hotspots but should not be used for fine tuning.

Q 1b Do we believe the current numbers? Are they more harmful than good?

- 1) Beware publicising figures, particularly when we are aware of very large errors in assessment.
- 2) May be a useful way to measure change ie to show a downward trend.

Q 2a Do we have an appropriate evidence base? What are the key knowledge gaps?

- 1) It is worthwhile using current values even though some of the figures are not accurate, Alternative is to wait until more accurate values are generated, by which time Government or public demands may have overtaken the position, leaving the industry on the back foot, especially since there is a legal obligation to make real reductions.

Whilst there may be differences between different data sources at present, the data should converge over time as more factors are included in the assessment e.g. enteric and N₂O emissions.

- 2) Put effort into area where we know the data are uncertain
 - more consistent figures needed
- 3) Accurate data generation on farm is needed - better understanding + recording
- 4) Feed manufacturers concerned that there is no consistency of data for relative emissions from different feeds. There was a long debate on the variation in carbon emission factors for animal feeds, covering the impacts of deforestation, and the fact that imported raw materials come from diverse inputs i.e. vast estates to peasant farming with widely different management impacts (deforestation effects).
It was felt that the international importers should become more engaged in this process, and not left to national interests.
There is a need for harmonization of emission data for feeds across a EU basis, and Fefac, the EU feed body is undertaking this exercise as part of its Sustainable Production and Consumption project.
Sweden has published GHG emission data for different feedstuffs, but are they good or bad?
There is a need to work out common methodology,
What is needed however is increased publicity about the uncertainty in many GHG emission estimates and the possible impact of this on the overall GHG assessment.

Action – harmony of numbers – may have to use data averages in first instance until more data becomes available.

- 5) Legal obligations vs real reductions – we require the latter but this will need a move away from using IPPC Tier 1 emissions in calculating national inventory data. We need to be able to give credit for strategies that reduce emissions and we also need to develop methodologies to document improvements eg how do we give credit to farmers who adopt better fertiliser management strategies or use biomass to generate own heat and power?

Q 2b Carbon sequestration – A key mitigation approach?

General acceptance that carbon sequestration was a major opportunity for agriculture, but our knowledge base in this area is weak. We urgently need more data particularly on management practices to improve carbon sequestration with grassland.

Q3 Where do we draw the boundaries in determining the carbon footprint of livestock products?

- 1) Logic in having boundary at the farm gate – easier to establish.
- 2) Must take further, so others along the food chain also do their part in addressing reductions in emissions. Important to stress responsibilities back to processors and retailers eg addressing the food waste issue.
- 3) Want system to encourage best practice + tools for improvement.
Whichever boundary is used, conclusions are that producers with lower GHG emissions generally generate highest profit.

Q4 Pull vs Push in relation to industry response

Current tools – need to harmonise at an international level eg at EU level. (An example cited related to feed inputs eg work being undertaken by the Cargill Group)

- Require consistency of tools and a joined up approach across the particular livestock sector. For example Dairy UK got key players into one room to harmonise the UK dairy sector
- Important for industry to know where we are now, to build up evidence and get credit for ongoing reductions in emissions ie need link to national inventory.
- Robust answers needed.
- Industry has the answers – GHG mitigation strategies can be industry led.

Realistic, maximum achievable reduction is 25% mitigation of current UK GHG emissions by 2022.

Q5 Where is the point of obligation

Government have legally bound the industry to reduce emissions but the current Inventory does not always support the case of agriculture. Point of obligation is probably best set at the farm gate in relation to emissions per unit of livestock output. Outputs could then be aggregated at national level to create the national inventory. One of the key issues for decision will be situation with respect to carbon offsetting on farm. Will credit be given to offsetting measures such as AD, biomass production etc against the per unit livestock emissions for the individual farm?

Q6 If the current tools are not fit for purpose, who will take the lead in developing alternative approaches?

In general the view was that industry should take the lead in developing alternative approaches. The dairy example was cited as an example of industry taking the lead and similar initiatives were being established for the beef and sheep sectors. Critical issue was development of the national inventory to take account of effective mitigation options. Government had a role in ensuring that the inventory was fit for purpose. Innovation comes from within the industry and must be channeled back to government.

Even if we implement all mitigation factors the best that can be achieved is a 25% reduction in UK GHG emissions from this sector by 2022.