PhD opportunity

Methodologies and Indicators for Nutrient Use Efficiency along Livestock supply chains

Wageningen University, Teagasc (the Irish Agriculture and Food Development Authority) and the FAO, welcome applications for a PhD position. The PhD project is directed at the development of methodologies and key-indicators to evaluate efficiency of nutrient use of contrasting farming systems across the world. The project is connected to the FAO partnership on benchmarking the environmental performance of livestock supply systems.

Context
Quantitative information on key environmental impacts along livestock supply chains is required to (a) analyze food systems and inform decisions at the production and processing levels to improve environmental performance, (b) develop and evaluate corresponding policy decisions (governmental and non-governmental), and (c) inform relevant stakeholders.

Previous assessments by the FAO have revealed that a great deal of valuable work is being carried out within the livestock industry, government, academia and non-governmental organizations. However, it also revealed that many one-off studies were being undertaken, leading to inconsistencies in the methods used and much duplication of effort. This is a major constraint in designing and implementing efficiency gains strategies on a large scale and at minimal costs. As a result of this realization, FAO and other stakeholders decided to develop a formal collaboration to improve the consistency, cost-effectiveness and relevance of their work in the area of benchmarking and monitoring environmental performance of livestock supply chains. The Partnership has a global geographical coverage and will undertake activities of relevance to all the major livestock products and related supply chains. [http://www.fao.org/ag/againfo/livestock-benchmarking/en/](http://www.fao.org/ag/againfo/livestock-benchmarking/en/)

This PhD position will be an integral part of the FAO partnership, with specific responsibility to develop methodologies and key-indicators for nutrient use efficiency (NUE), and to evaluate NUE of contrasting farming systems across the world. It will collaborate closely with other activities within the partnership, i.e. 1) the quantification of livestock’s carbon footprint; 2) the creation of a database of greenhouse gas emission factors for different kinds of animal feed; the development of methodologies for measuring other important environmental pressures, such as water consumption and loss of biodiversity.

The research will comprise of a range of activities, including:
- Desk-based study of literature and assessment of existing methodologies and metrics of nutrient use efficiency;
- Acquisition of existing data;
- Mathematical modelling and methodology development;
- Deployment and testing of methodologies in situ in a number of contrasting agro-climatic zones and farm systems.
**Details**

Number of positions: 1
Employer: Animal Production Systems Group, Wageningen University and Research, the Netherlands.
Location(s): FAO Headquarters (Rome, Italy) + Johnstown Castle Environment Research Centre (Wexford, Ireland) + Wageningen University (Animal Production Systems Group, Wageningen, The Netherlands).
Duration: 4 years, commencing in Autumn 2012
Remuneration: Students are paid stipends of €21,000 per annum, subject to currency conversions and transaction costs.

**Requirements**

For this interdisciplinary project we look for a highly motivated, inquisitive, enthusiastic, and result-driven PhD candidate with an appropriate MSc degree in biology, animal or environmental sciences. He or she is familiar with life cycle assessment, quantitative modeling, animal production, and is interested in opportunities to improve sustainability in animal supply chains. Excellent research skills and analytical abilities are required. Excellent communication skills and proficiency in English (both oral and written) are prerequisite. Moreover, a high degree of flexibility in relation to location is required: the successful student will be expected to be based in Rome, Wexford and Wageningen, for extended periods of time – and will be expected to be available for field work in various countries / continents.

**How to apply**

Applications must be sent by email to Livestock-Partnership@fao.org and Rogier.schulte@teagasc.ie by 7th December 2012. Applications must include:

1. A Curriculum Vitae (C.V.), detailing academic qualifications and employment history (normally no longer than 3 pages)

2. An application letter, outlining:
   i. The reasons and motivation for application;
   ii. Evidence of past experience that is relevant to the position applied for;
   iii. A character profile of the candidate, highlighting personal competencies that distinguish the candidate.

   The length of the application letter should not exceed 2 pages.

3. Names and contact details (preferably email address) of two referees who can and are willing to provide first-hand feedback on the applicant’s work

Applications must be written in English. Incomplete applications and/or applications received after the deadline of 7th December 2012 will not be taken into consideration.

**Further information**

Further information and a detailed project proposal may be obtained from Prof. Dr. Imke de Boer (Imke.deboer@wur.nl) and/or from Dr. Rogier Schulte (rogier.schulte@teagasc.ie) or Dr. Pierre Gerber (Pierre.gerber@fao.org).