
Editorial

Guest Editors: Rubén Irusta and Yolanda Núñez

Introduction

The consumers' awareness of sustainability issues has increased considerably from the commitment adopted in the Johannesburg Summit 2002 on Sustainable Development. Nowadays, consumers demand not only products with higher hygienic standards and better quality, but also environmentally friendly products. Consequently, it is essential to increase their knowledge of the environmental profile of products in order to reduce the environmental impact associated with the food supply chain.

The integration of the environmental vector in Community Agricultural Policy implies that aspects such as environmental protection, human health, animal welfare and use of fertilisers have become a priority. Research plays a vital role in promoting the development of a productive and environmentally friendly agricultural sector. Therefore, in order to achieve the objectives of the new legislative framework regarding food security, diversification, sustainable resource utilisation, etc., it is necessary to gather information about food supply chains and their environmental impact.

Life Cycle Assessment (LCA) is a tool for evaluating the environmental impact associated with a product, process or activity during its life cycle. LCA studies can be used to identify environmental impact in production chains. The outcomes of LCA can, therefore, help reduce the environmental impact associated with agriculture and livestock production and support the strategic decision-making process.

This Special Issue 'LCA and Primary Sector' focuses on the application of LCA to vegetable and animal goods. The papers highlight the usefulness of LCA as a tool to quantify environmental effects associated with food production and consumption and the methodological problems which arise when LCA is applied to food chains.

In this Special Issue, two papers present the Life Cycle Assessment of vegetable and fruit products. Anton et al. analyse and evaluate the environmental impact associated with the process of greenhouse cultivation of a tomato crop, whereas Sanjuán et al. assess the environmental impact associated with integrated orange production in eastern Spain. The real necessity of developing new alternative energy resources is also shown in two of the papers, which study the environmental performance of wheat and barley grain as a raw material for bioethanol production (Lechón et al.) and of bio-diesel from the oil derived from hemp seeds (Rieradevall et al.), respectively.

Two other papers deal with the environmental loads associated with two of the most representative alcoholic drinks sectors in Spain, beer production (Hospido et al.) and wine production (Aranda et al.). Finally, Martín et al. address issues related to the complex nitrogen cycle for the Catalan agricultural soils and livestock sectors and Núñez et al. carry out a critical analysis of the application of LCA methodology to food chain supply through an illustrative example, the LCA of beef, pork and ostrich meat.

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