

# ENVIRONMENTAL FOOTPRINTING

## AGRI-FOOD FOOTPRINTING IN ALBERTA



*Alberta Agriculture and Rural Development (ARD) is dedicated to ensuring that Alberta's agricultural producers remain competitive, adaptive and responsive in the marketplace. There is growing interest in developing and reporting sustainability measures as a way to increase efficiencies and respond to the market. Since primary production plays a key role in food and many other products, retailers and processors are increasingly requiring information and documentation from producers and suppliers on their environmental sustainability.*

*To address these emerging needs, ARD is working on an initiative to better understand and quantify the environmental impact of the Alberta agri-food industry. Through the use of Life Cycle Assessment (LCA), this effort will ultimately lead to cradle-to-farm-gate environmental footprints of four major agri-food commodities: canola, chicken, egg and potato.*

*The goal of this work is to establish a methodology that can be transferred to other agriculture commodities in the future and can serve as a national and international model of best practice for agricultural environmental footprinting.*

## What is LCA?

LCA is a systematic, quantitative assessment used across many industries to gauge environmental performance.

It is a comprehensive tool that accounts for all of the inputs (energy, raw materials, etc.) and emissions (greenhouse gases, etc.) used in the production, use and disposal of a product. These inventories are then used to evaluate the source and type of environmental impact using sophisticated global models.

By identifying environmental 'hotspots' (i.e. areas of the life cycle with significant environmental impact) and detecting trade-offs between potential actions, LCA acts as a decision support tool for improving environmental performance and efficiency. Further, LCA can be used to benchmark current practices and measure progress moving forward.

## What is the value of this project for the Alberta agri-food industry?

Environmental Footprinting, backed by representative data and LCA standardized by the International Standards Organization (ISO)<sup>1</sup>, can contribute to harmonizing sustainability metrics and collecting required data. By being proactive and developing databases, the industry will be well-positioned to respond to increasing market demands for sustainability information. LCA can also assist producers in making more effective operational and environmental management decisions, which in turn can lead to economic benefits and market access.

Moreover, this initiative will strengthen the industry's knowledge of its own operations from an environmental perspective. Such information prepares Alberta producers and other stakeholders to engage in discussions related to, for example, the following:

- ✓ Forecasting and strategic capacity
- ✓ Environmental responsibility
- ✓ Product differentiation
- ✓ Branding

## What type of data is required? How will the data be gathered?

LCA studies need to use the most accurate and up-to-date information available regarding farm practices and conditions. While existing records and publications will be used wherever possible, additional information may be needed to fill data gaps. Reports generated within this initiative will provide footprints at a provincial or regional scale and will not detail individual farm operations.

<sup>1</sup>For more information on the International Standards Organization (ISO), see: <http://www.iso.org/iso/home.htm>

## Will this work require another producer survey?

The project team will make use of existing information to fulfill data needs wherever possible. Any questions not answered by the existing information will be evaluated for their degree of importance to the study results. Data points found to be crucial to the outcomes of this work may be condensed into a brief questionnaire.

## Is the methodology being used in this project the same as that being used for other agriculture commodity projects, already completed or proposed, in other provinces or nationally?

LCA is an internationally-recognized, scientifically-validated system of analysis and is framed by the ISO methodology (ISO 14040). Further, LCA is the most widely accepted methodology by business, government and others as the global standard for environmental assessment. LCA is endorsed by the United Nations Environment Program (UNEP) and by members of The Sustainability Consortium (TSC) including Walmart, McDonald's and PepsiCo. The clothing and apparels, electronics and pharmaceutical industries are also on board.

In the United States, for example, a major LCA initiative has led to the creation of the Fieldprint calculator, a footprinting tool developed by the Keystone Alliance for Sustainable Agriculture for primary producers to determine how their operations impact the sustainability of their farms. LCA is also being used in Europe, where it has guided the adoption of strict carbon-labeling standards at supermarkets such as Marks & Spencer and Tesco.

## Will comparisons be made among commodities?

The intent of this study is to develop accurate baseline environmental footprints for Alberta commodities to better understand individual sectors of the industry and not to compare among commodities.

## How is this project being funded and how will funding for this type of work be done in the future if there is more work to be done?

This project was initiated by Alberta Agriculture and Rural Development. Funding for this Canada-Alberta cost-shared project was provided by Agriculture and Agri-Food Canada through the Agricultural Flexibility Fund. If required for future work, funding would be applied for under available partnership programs.

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