Cool Farming Options

A global initiative to reduce agricultural GHG emissions using the Cool Farm Tool GHG calculator

coop-developed by:

Unilever
University of Aberdeen
Sustainable Food Laboratory
31 of 50 top food companies report on GHG emissions

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Source: SFL/Pulse Canada
Agriculture produces more GHG than transportation
Unlike other GHG sources, agriculture has a mitigation potential that could offset most of its emissions.
This presents an opportunity for the food & beverage industry

But there is an implementation gap.

We haven’t had an efficient way to identify and quantify practical reduction measures at the field and farm level. (Christof Walter, Unilever)
Farmers, Suppliers & Buyers need tools to understand....

- What are the most effective measures at my farm or in my supply chain (location, climate, soil, operation)?

- What are the costs and practical implications?

- What are the incentives and barriers to adopting more effective practices?
Cool Farming Options Project

- Assess GHG reduction potential in working farms
- Build a tool and customize versions for the whole industry
- Understand barriers for farmers
- Identify solutions (incentives, technical assistance, etc)
- Reduce footprint of whole industry

Farm-level Analysis ➔ Global Learning
18 Sponsoring Partners
21 Assessments in 17 Countries

**Large-scale production**
Apples, Barley, Canola, Dairy, Eggs, Lettuce, Tomatoes, Potatoes, Pulses, Sugar, Wheat

**Small-scale production**
Tea, Beans, Coffee, Cotton, Mixed Vegetables
Cool Farm Tool: Open source GHG calculator and decision support model

- Farmer focused ‘tier 2’ tool

- Scope:
  - Global, applicable for many crops, with regional defaults
  - Modules for farm, primary processing, and transport

- Management focused, decision support

- Exploration of mitigation options
Cool Farm Tool complements other approaches.

- GHG Protocol
- Life Cycle Analysis
- PAS2050
- Carbon Footprints
- ISO

Site specific approach

How do we actually reduce farm emissions?

Answer: Cool Farm Tool
The Cool Farm Tool calculates emissions for:

- Transport
- Primary Processing
- Field Energy Use
- Livestock Sequestration
- Crop Management
### Summary Table:

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<th>Category</th>
<th>CO2</th>
<th>N2O</th>
<th>CH4</th>
<th>Emissions for total area, kg CO2 eq</th>
<th>Per acre</th>
<th>Per tonne</th>
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Comparison of 2 Romaine Lettuce Supply Chains, USA

West Coast

Cooler/Processor

Midwest

Cooler/Processor

Midwest Distribution Center
Comparison of the sources of On-Farm GHG Emissions (lbs CO2e per pound lettuce)

The emissions sources are easily identified along with the differences between the two farms.
Whole Supply Chain Emissions (lbs Co2e per pound of product)

West Coast Supply Chain

- On-Farm: 4%
- Transport to Plant: 23%
- Transport to Dist Center: 92%

Midwest Supply Chain

- On-Farm: 19%
- Transport to Plant: 23%
- Plant: 33%
- Transport to Dist Center: 25%
Is the Cool Farm Tool right for me?

• What is your goal in quantifying emissions?
• What are your buyers asking for?
• Do you have leverage with decision makers over farming practices?
• Who advises farmers on best practices?
• The Sustainable Food Lab provides training on tool use and crop modelling
• Excel version is open source and free of charge
• An online, multicrop version will be available in 2012-13
Please contact us for more information!

sustainablefood.org/projects/climate

Stephanie Daniels
stephanie@sustainablefood.org

Daniella Malin
daniella@sustainablefood.org