



# Agribusiness 2015

12 November 2014



**Growing the sustainable agrisupply chain**  
[www.agindustries.org.uk](http://www.agindustries.org.uk)

Will 'Cool Farming' provide a sustainable framework for farmers in the UK and Europe?

**Richard Heathcote**  
*Cool Farming Institute*

# Contents

Challenges

A Plethora of Schemes

And for the Farmer?

Measure to Manage

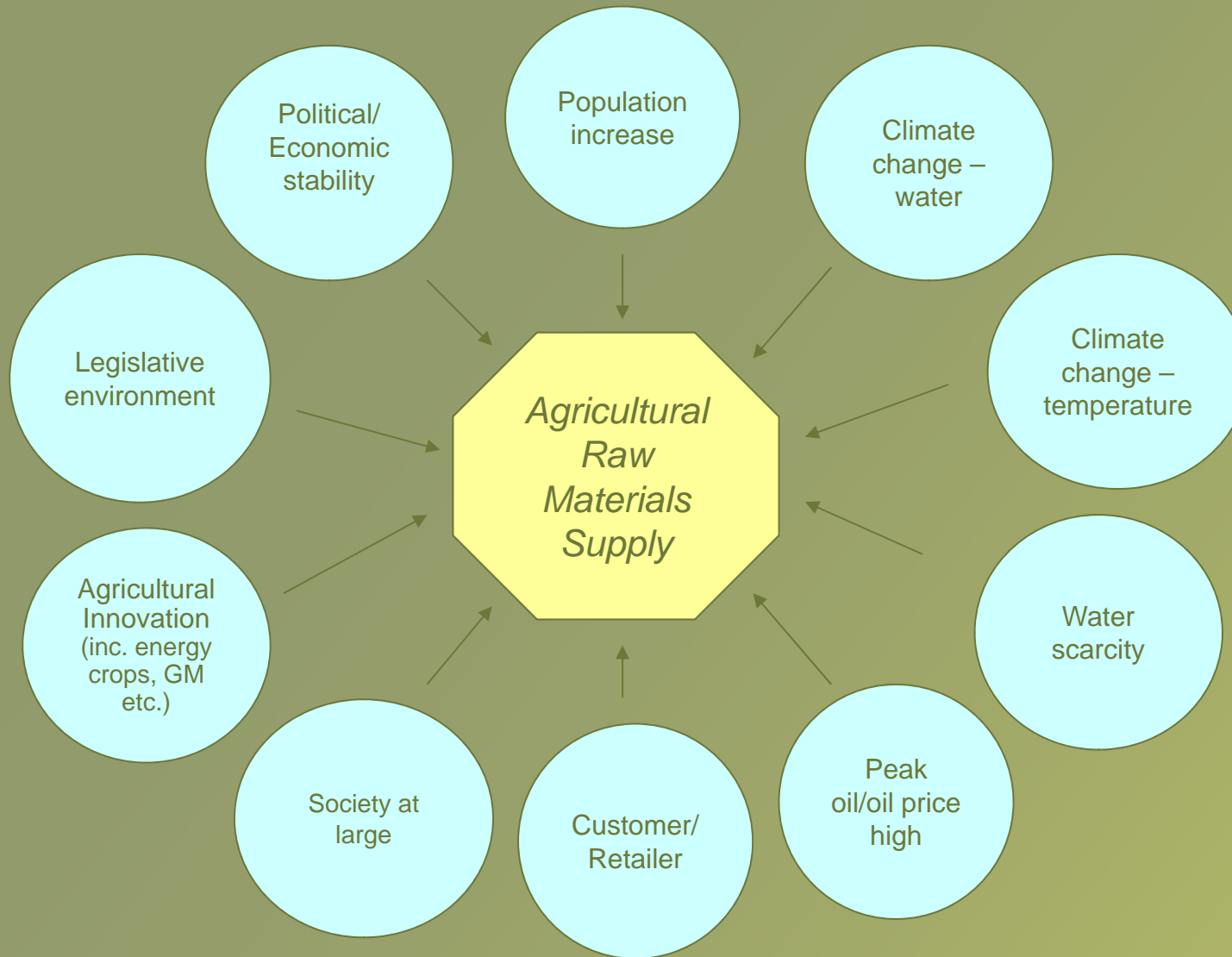
The Cool Farm Tool



# Challenges



# Challenges to be Faced



# Agricultural Dilemma

Globally, food production and agriculture is facing a dilemma

## TECHNOLOGY DRIVEN

Managed interventions  
Agro-chemicals  
Intensive  
Oil dependency  
Precision Farming/UAVs  
GM is the solution  
Efficient maximum yield  
Linear

## ECOLOGY DRIVEN

Inherently complimentary  
More natural systems  
Extensive  
Less oil dependent  
GM may have a role  
Future sustainable sufficient  
yield  
Cyclical

# Agricultural Dilemma

The answer will be to use the best from both ...

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# Plethora of Schemes

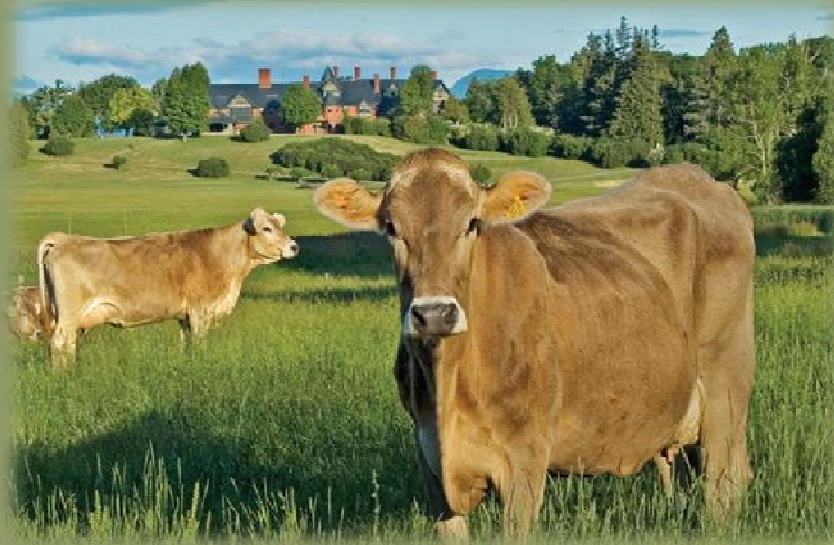


Just a few of the better known ...





And for the farmer?



I want enough for my family

I want to hand on my farm to the kids

I want to maximise my yields AND I want to protect the land

I want to protect my income

My customer wants to know my carbon footprint

The Government tells me to “go green”

They wants me to save the skylarks

My agronomist provides me with advice – who advises them?

*How CAN I know I'm doing the right things?*

# Measure to Manage

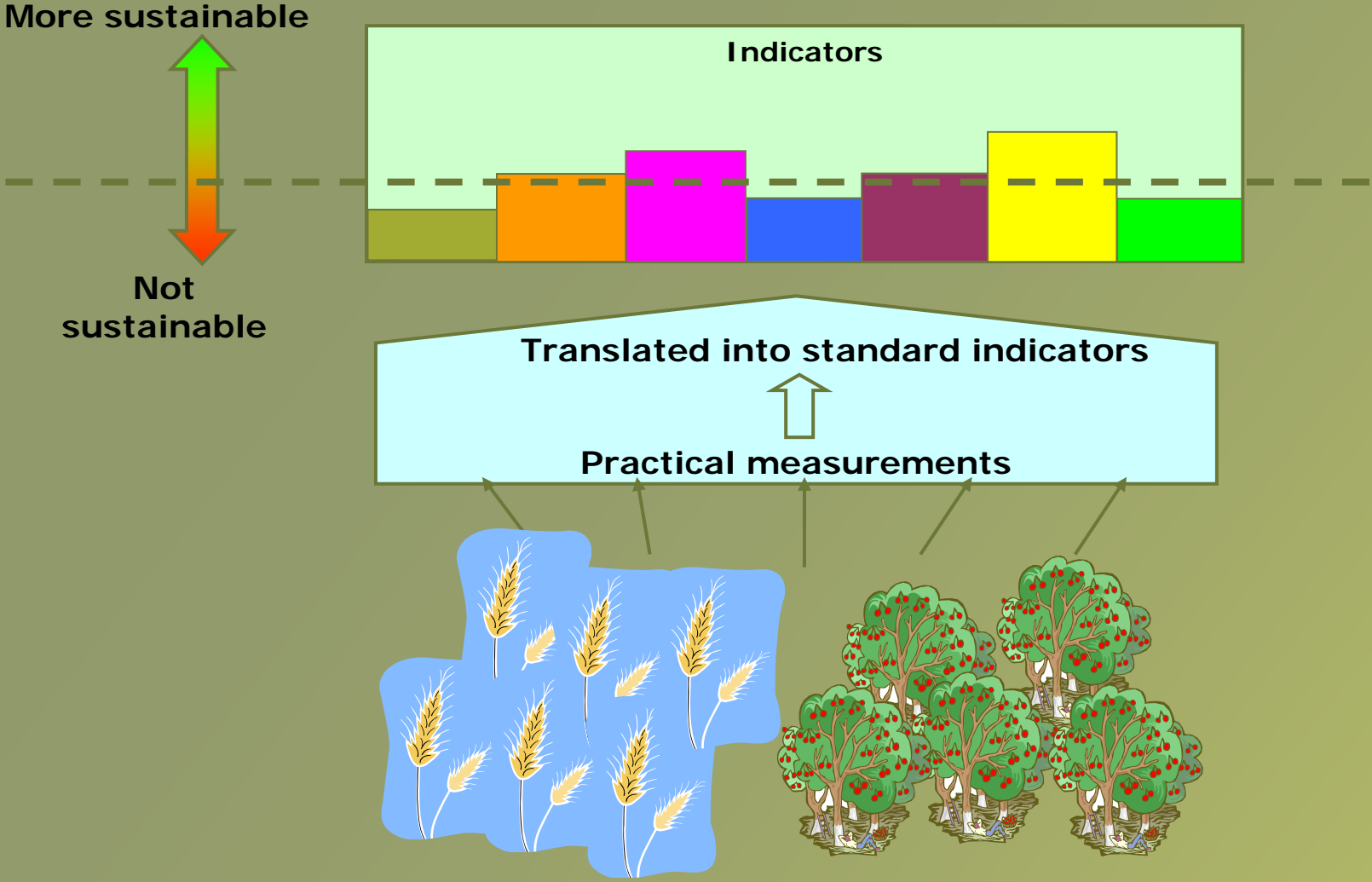


## Measurement - How will we know we are getting more sustainable?

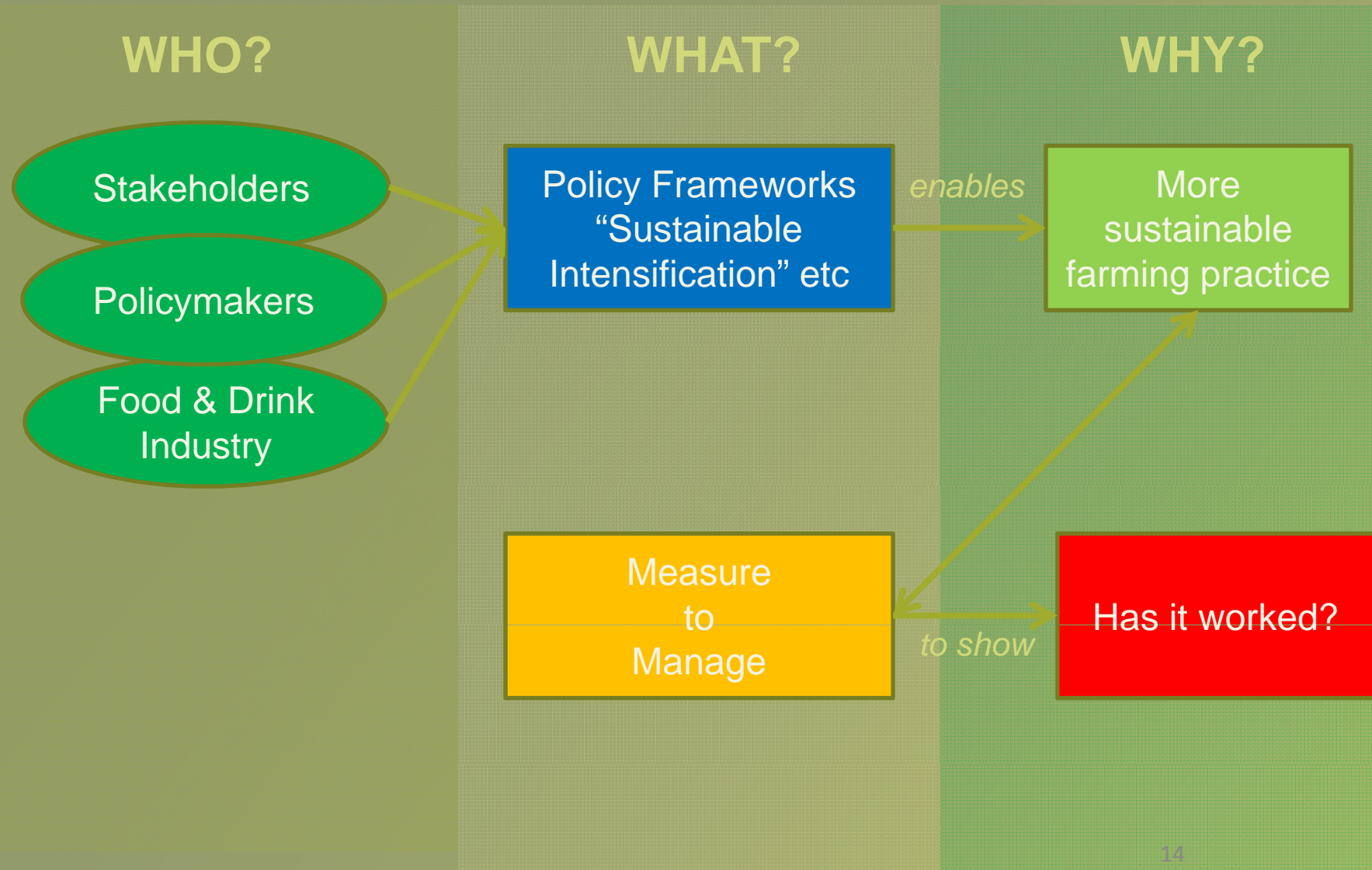
- We know we have to define “sustainable”
- We know we need to measure to manage
- We know we need measures that are scientific AND practical
- We know we need to focus on outcomes

*And we know we need to start ...*

# Measurement



# Summary



# Cool Farm Alliance

What is the Cool Farm Tool?



# CFA Mission Statement

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**The Cool Farm Alliance will help millions of growers globally to make more informed on-farm decisions that reduce their environmental impact.**

Initial Focus: GHG impacts

A decorative graphic of two stylized leaves in shades of olive green, positioned in the bottom right corner of the slide.



# What is the CFT?

Croptype	Croptype: <input type="text" value="Wheat"/>																																																		
Soil	Soil texture: <input type="text" value="Silt loam"/> Soil Organic Matter: <input type="text" value="18.00%"/> Soil moisture: <input type="text" value="10.00%"/> Soil drainage: <input type="text" value="Good"/> Soil pH: <input type="text" value="7.00"/>																																																		
Fertiliser Use	<table border="1"> <thead> <tr> <th>Fertiliser</th> <th>Nutrient or product</th> <th>Application rate</th> <th>Unit (e.g. tonnes, kgs, pounds)</th> <th>Application method</th> <th>Emissions inhibitors</th> <th>Fertiliser production</th> </tr> </thead> <tbody> <tr> <td>Fertiliser 1</td> <td>N</td> <td>110</td> <td>kg/ha</td> <td>Broadcast</td> <td>None</td> <td>Synthetic</td> </tr> <tr> <td>Fertiliser 2</td> <td>Super phosphate</td> <td>60</td> <td>kg/ha</td> <td>Broadcast</td> <td>None</td> <td>Synthetic</td> </tr> <tr> <td>Fertiliser 3</td> <td>P</td> <td>70</td> <td>kg/ha</td> <td>Broadcast</td> <td>None</td> <td>Synthetic</td> </tr> <tr> <td>Fertiliser 4</td> <td>Ammonia</td> <td>70</td> <td>kg/ha</td> <td>Broadcast</td> <td>None</td> <td>Synthetic</td> </tr> <tr> <td>Fertiliser 5</td> <td>Ammonia</td> <td>70</td> <td>kg/ha</td> <td>Broadcast</td> <td>None</td> <td>Synthetic</td> </tr> <tr> <td>Fertiliser 6</td> <td>P</td> <td>70</td> <td>kg/ha</td> <td>Broadcast</td> <td>None</td> <td>Synthetic</td> </tr> </tbody> </table>		Fertiliser	Nutrient or product	Application rate	Unit (e.g. tonnes, kgs, pounds)	Application method	Emissions inhibitors	Fertiliser production	Fertiliser 1	N	110	kg/ha	Broadcast	None	Synthetic	Fertiliser 2	Super phosphate	60	kg/ha	Broadcast	None	Synthetic	Fertiliser 3	P	70	kg/ha	Broadcast	None	Synthetic	Fertiliser 4	Ammonia	70	kg/ha	Broadcast	None	Synthetic	Fertiliser 5	Ammonia	70	kg/ha	Broadcast	None	Synthetic	Fertiliser 6	P	70	kg/ha	Broadcast	None	Synthetic
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Started as on-farm greenhouse gas emissions calculator originally developed in Excel as a collaboration between Unilever, the University of Aberdeen and the Sustainable Food Lab.

Now managed and distributed as an on line tool by the Cool Farm Alliance; whose membership includes Tesco, Marks & Spencer, Unilever, Yara & Pepsico. The online version is aimed at making it easier for Producers to accurately calculate their footprint

- [+ Add product](#)
- [🕒 About](#)
- [⚙️ Farm settings](#)
- [# Results](#)
- [# Export assumptions](#)
- [? Help](#)

**Welcome to the Cool Farm Tool Online**

You have four main options. You can create a new crop or livestock product footprint, view a previously entered product footprint or change your farm settings. Note that after they are first entered, farm settings are unlikely to change.

add crop product

add livestock product

farm settings

view products

# The Cool Farm Tool

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An **easy to use** and **standardised** on-line tool for calculating the **on-farm** environmental impacts, currently greenhouse gas emissions, associated with a range of **crop** or **livestock** products, applicable globally

- ✓ Scientifically robust
  - ✓ Farmer-friendly
  - ✓ Industry-backed
- 

# Science-based

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- Overseen by experts at University of Aberdeen
- Tool draws on established research, e.g.:
  - Livestock: IPCC Tier 1 and 2 calculations
  - Field N<sub>2</sub>O: Bouwman model (used in IPCC)
  - Soil Carbon: Ogle model
  - Fertilizer emissions: Fertilizer's Europe
  - Energy: GHG Protocol, IEA and EPA
  - SAI Platform compliant



# Farmer-friendly

- Farm management sensitive
- A scenario tool: what is vs. what could be
- Allows exploration of mitigation options
- 89% of Tesco growers would recommend to others (2013-14 pilot)



“The interactive nature of the CFT is fantastic and the ‘what if’ scenarios make it very captivating”

*Feedback from US processor*

# Succeeding together – collaboration is key




- Cool Farm Alliance owned by an industry consortium
- Partners, members and supporters are drawn from across industry, academia, not-for-profits and consultants
- Benefit from tackling big challenges together and having a consistent approach to measurement



## Multi-product: used in 25+ farm systems

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- Navy Beans
  - Potatoes
  - Wheat
  - Sugar
  - Eggs
  - Canola
  - Lentils
  - Coffee
  - Tea
  - Barley
  - Cocoa
  - Cotton
  - Lettuce
  - Tomatoes
  - Strawberries
  - Dairy
  - Broccoli
  - Rice
  - Beets
  - Apples
  - Oranges
  - Beef
  - Soy
  - Peas...
- 

# Usage

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- **Unilever:** over 10,000 farms, embedding in its Sustainable Agriculture Code (SAC), as the requirement for the GHG metric.
- **PepsiCo:** >100 potato farmers covering about 800 hectares
- **Costco:** over 60 million dozens eggs p/a
- **McCain:** 15 countries about 30 sample farms
- 7 different partners: coffee 7 countries, 500 farms

***>10,000 assessments across at least 33 countries and 28 crops***



# More case studies available online

**Cutting cotton carbon emissions**  
Findings from Warangal, India

### CASE STUDY: UNILEVER AND THE COOL FARM TOOL

Carbon footprint data collection from agricultural suppliers using the Cool Farm Tool

**Background**  
Agriculture and forestry are responsible for a significant share of global greenhouse gas emissions, and therefore are major drivers of climate change. Half of Unilever's raw materials come from agriculture and forestry, and given the scale of our global footprint, understanding and helping to reduce emissions from these sources is important for our business and brands. Consequently, we have committed to sourcing 100% of our agricultural raw materials sustainably by 2020 and are on the path to do so. Sustainable sourcing will help us to ensure that we are bringing the planet a natural resource as well as managing a core business risk by ensuring the security of supply for the long term.

**Unilever and Sustainable Agriculture**  
Unilever has long worked on sustainable agriculture and published several Good Agricultural Practice documents for our key crops. In 2012 this was consolidated into the <http://www.unilever.com/ourbrands/foodandbeverage/ourbrands/sustainableagriculture/cool-farm-tool>. The idea is to help our suppliers and the farmers who work for them to reduce their carbon footprint on their farms. All our suppliers of agricultural raw materials are required to commit to the sustainability journey and to demonstrate that they comply with minimum standards of performance and strive to continuously improve performance over time. In parallel, since 2008, Unilever has worked with The University of Aberdeen and the Sustainable Food Lab on developing the Cool Farm Tool (CFT). The tool is used as a means for us to work with our farmers to understand and measure their greenhouse gas footprint and to measure progress over time.

### Farming Options, Heinz

Tool Assessment, California Field 2012

10.7 billion dollar company with widespread reach, over 600 million bottles of ketchup sold, Heinz has committed to reducing its own greenhouse gas emissions by 2020 and is the 3<sup>rd</sup> highest score and change, and the highest score among users of the Cool Farm Tool.

Goals for reducing green their ingredient growers and/or growing organic 100 acres, which helps to meet company's goals from growers throughout agriculture.

### Costco organic egg suppliers use the Cool Farm Tool to reduce GHG emissions

A case study describing a two-year supply chain engagement project 2010-2012  
September, 2012

If you go into a Costco store anywhere in the U.S., the organic eggs you'll find on the shelf will have a climate story to tell. For the past two years the organic egg producers supplying Costco stores have been using the Cool Farm Tool to gain insight into the carbon emissions of their operations. With support from the Sustainable Food Lab, Costco has engaged its entire supply chain in a program designed to spur reductions in greenhouse gas emissions of organic eggs.

A distinguishing feature of this program is its participatory and iterative nature. In many cases accounting interviews, the accounting is a "black box", with only assessed (calculate the carbon for each supplier in isolation. This program, on the other hand, has learning and collaboration at its core.

In this program, the Costco organic egg suppliers receive the tool and training to do self-assessments and run "what-if" scenarios. Using the Cool Farm Tool the



# Future Intentions

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- Always underpin with rigorous science
- Developing (as fast as funds permit)
  - New metrics: water, biodiversity
  - Better decision support inc. financials
  - Analytics and aggregation
    - Field>crop>rotation>farm>landscape
    - Supply chain reporting
  - Improved import/export capability
  - “APP” functionality



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Lots of info: [www.coolfarmtool.org](http://www.coolfarmtool.org)

[info@coolfarmtool.org](mailto:info@coolfarmtool.org)

@coolfarmtool









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