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# **U.S. Dairy Sustainability Commitment**

## **Measurement to Innovation**

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# Industry Action: Industrywide Participation



# Sustainability Council Members

## Associations/Academic



## Producers

- Clauss Dairy Farms
- Gar-Lin Dairy Farms, Inc.
- Graywood Farm
- Foster Brothers Farm
- Haubenschild Farms Inc.
- Nobis Dairy Farm
- Spruce Haven Farm



## Processors/Manufacturers



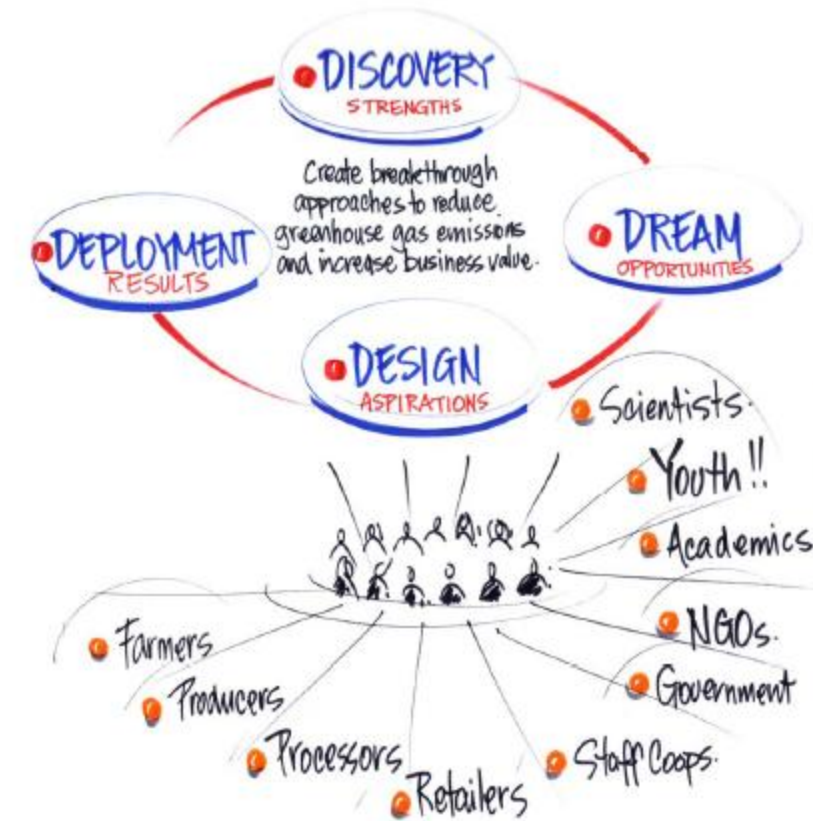
## Retailers



## Co-ops



# Collaborate: We brought together the whole value chain for a 3-day appreciative inquiry summit...

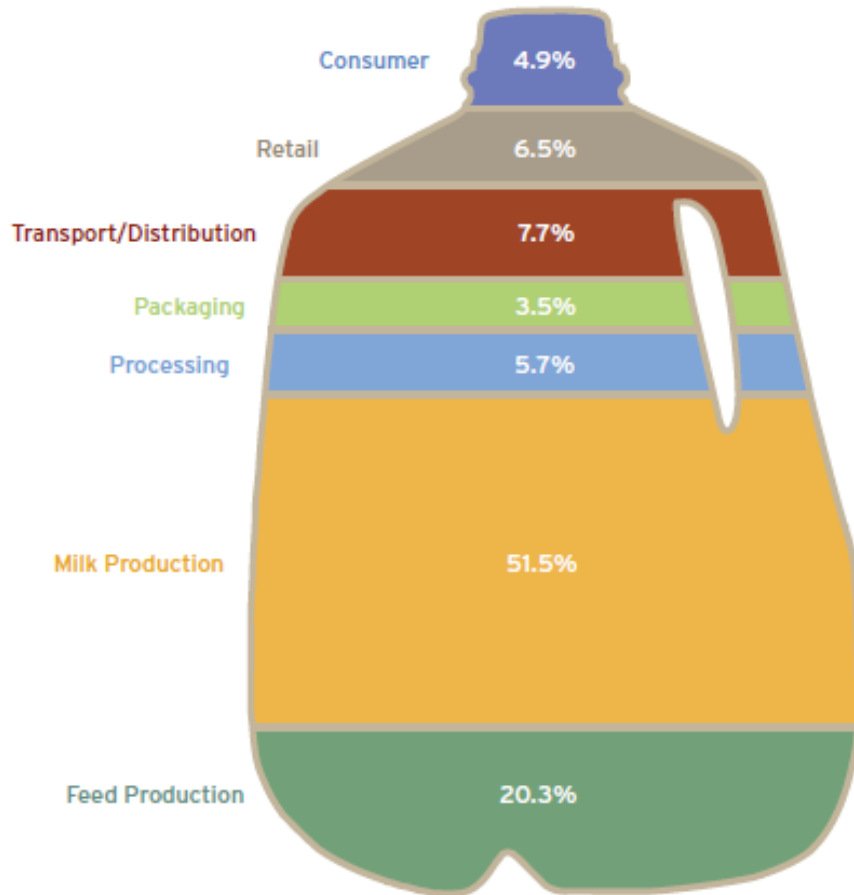


# Steps to Systemic Change

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- Collaborate
- Measure
- Lead
- Innovate

# Measurement: U.S. Fluid Milk Footprint

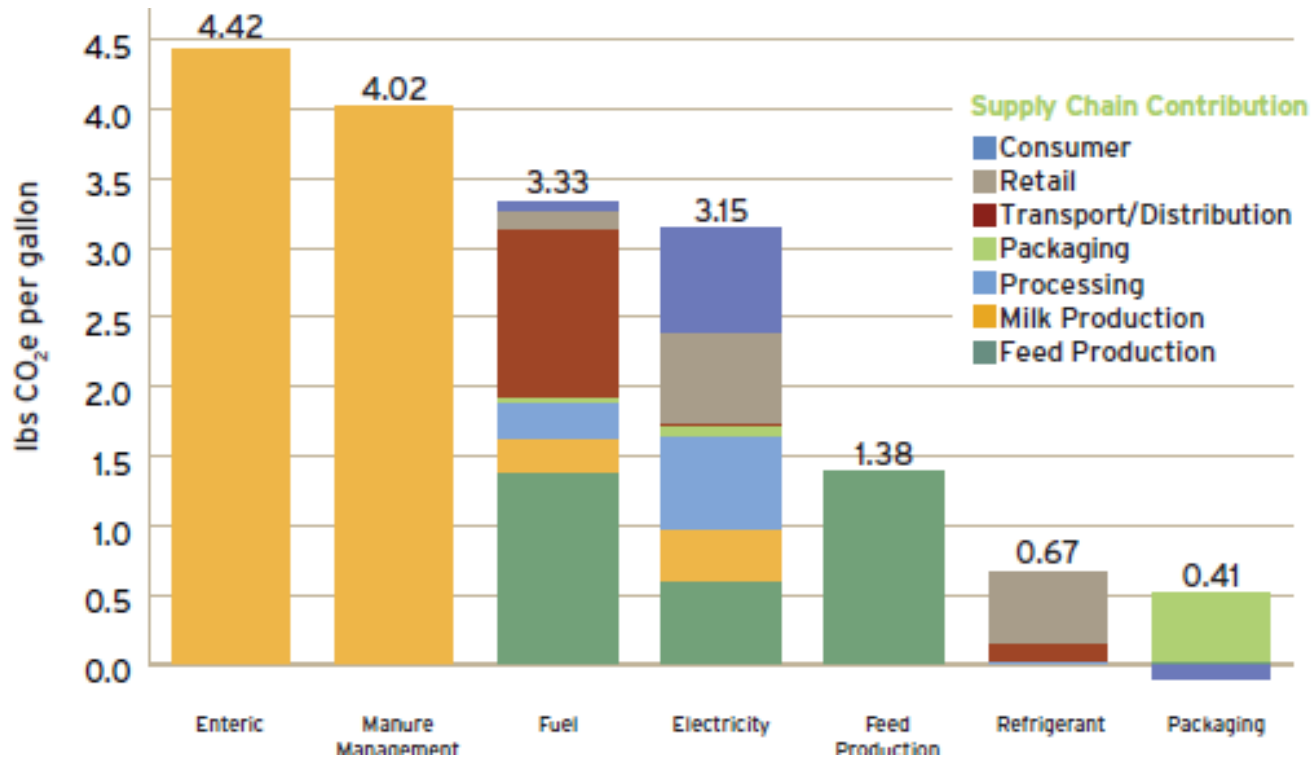


## Greenhouse Gas Emissions for U.S. Fluid Milk: Contributions by Supply Chain

Total CO<sub>2</sub>e emissions of fluid milk = 17.6 lbs. per gallon of milk<sup>1</sup>

# Measurement: Understanding and Owning our Footprint

Carbon footprint of 1 gallon of milk =  
17.6 lbs CO<sub>2</sub>e/gallon fluid milk consumed<sup>2</sup>



<sup>1</sup> Does not include sources related to waste.

<sup>2</sup> 2010. "Greenhouse Gas Emissions of Fluid Milk in the U.S." University of Arkansas. Based on environment and consumption data from 2007-2008, the total fluid milk carbon footprint is approximately 35 million metric tons, with a 95% confidence range from 30 to 45 million metric tons. Natural variability in data ranges from 15.3 to 20.7 lbs. CO<sub>2</sub>e per gallon.

## Lead: U.S. Dairy Industry

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31 Industry CEOs and Chairmen committed to:

- **Support goals for GHG reduction** at each stage of the dairy value chain from farm to retail, with an overall reduction goal for the industry of **25% by 2020**
- **Support a portfolio of 10 projects** that promise to deliver **GHG reductions** and create **\$238 million of business value**

# Lead: International

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## Worldwide Dairy Industry signed Global Declaration on Climate Change Sept 24,2009



### Worldwide Dairy Industry to Sign Global Declaration on Climate Change

*“Global Dairy Agenda for Action” will reinforce the Triple Bottom Line*

On 24 September, the dairy industry made history with the signing of a Global Dairy Agenda for Action during the World Dairy Summit in Berlin, Germany.

Signed by seven organisations on behalf of the world’s dairy associations and companies, the Global Dairy Agenda for Action is an industry pledge to reduce carbon emissions as part of its contribution to help address global warming. This pledge builds on past performance to address climate change.

# Lead: United Nations Climate Change Conference

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On December 15, 2009 the USDA recognized the work of dairy producers and the entire industry with a Memorandum of Understanding (MOU)



"This historic agreement, the first of its kind, will help us achieve the ambitious goal of drastically reducing greenhouse gas emissions while benefiting dairy farmers."  
"



- Secretary Tom Vilsack

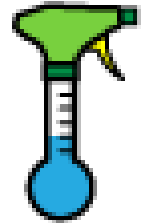
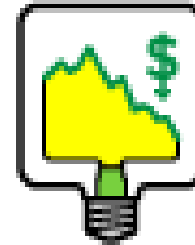
# Innovate: Roadmap Projects

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Energy Management Best Practices

Farm Energy Efficiency

Dairy Plant Smart



Energy Management Next Practices

Next Generation Processing: UV

Next Generation Cleaning



Dairy Distribution Best Practices:

Dairy Fleet Smart

Processing and Packaging LCA



Enteric and Manure Management Next Practices

Dairy Power

Cow of the Future

# FarmSmart: Project Mission & Vision

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## ■ Mission:

- To enable dairy producers, stakeholders and support personnel to make on-farm operational changes that generate business value and improve the environment.

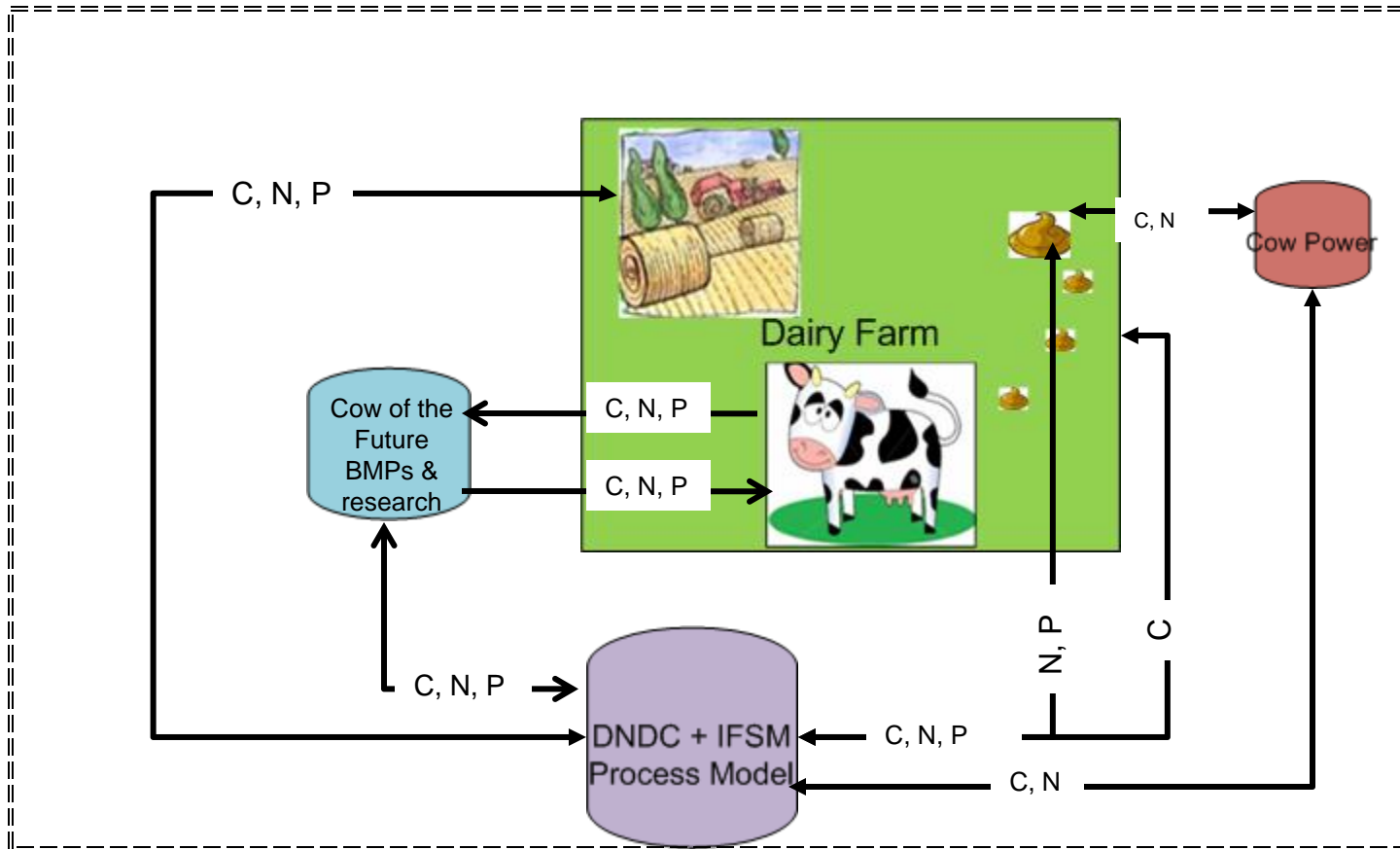
## ■ Vision:

- An information management and knowledge creation system that enables decision makers to assess, measure, and mitigate environmental impacts in a way that makes good business sense for farmers.

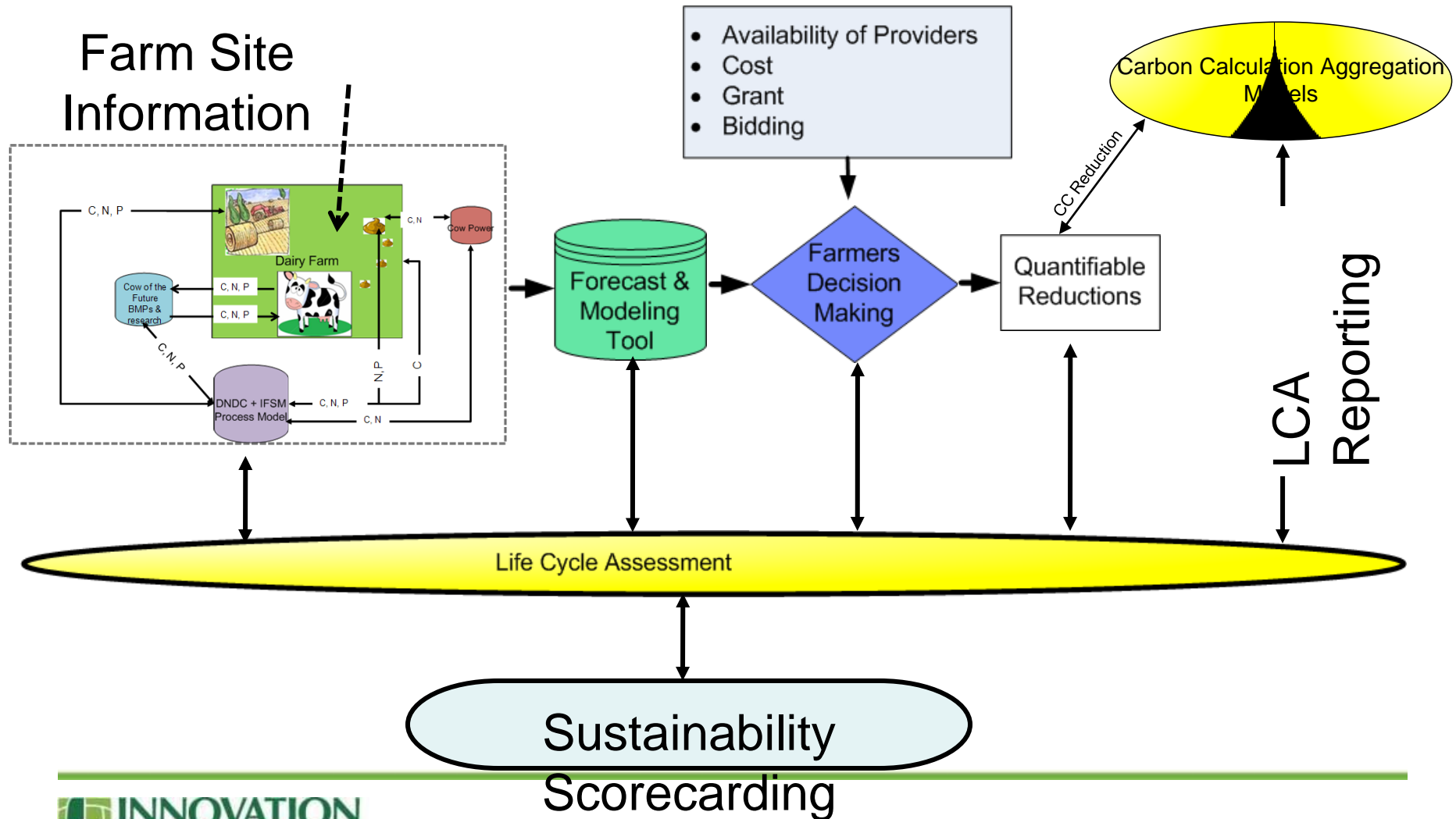
## □ Tools that:

- provide dairy farmers and other stakeholders with farm-specific priority areas for optimizing farm practices.
- allow dairy farmers and other stakeholders to to run what-if scenarios to test how specific changes will impact a specific farm.

# Innovate: vision for FarmSmart project

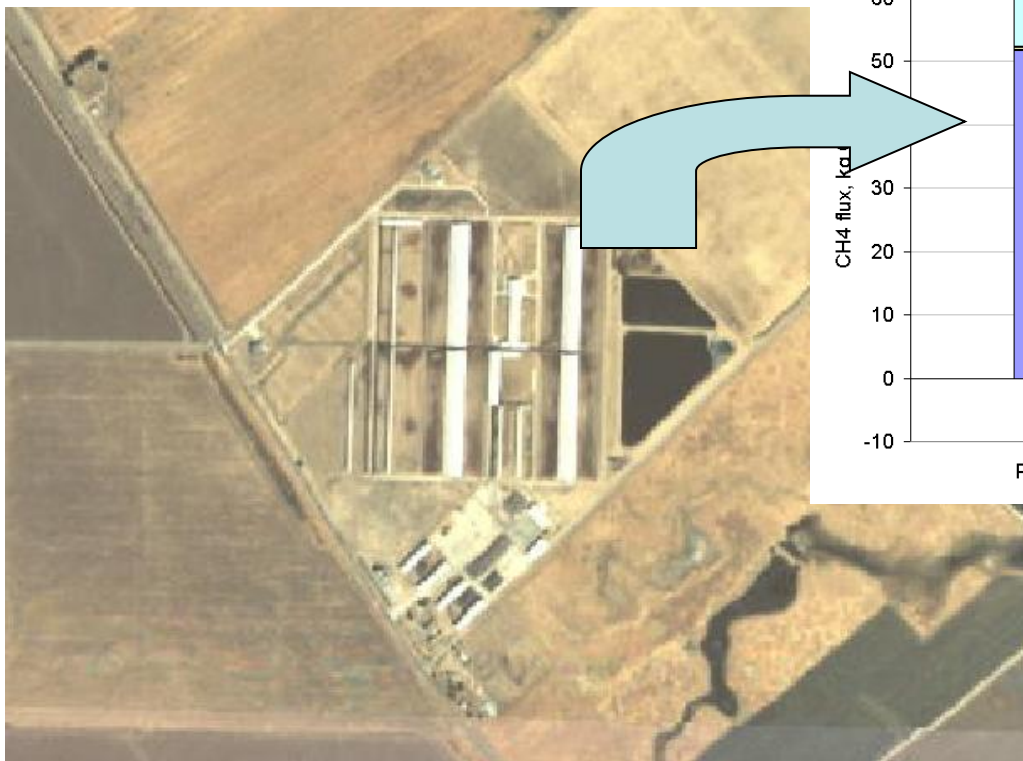


# Innovate: FarmSmart project

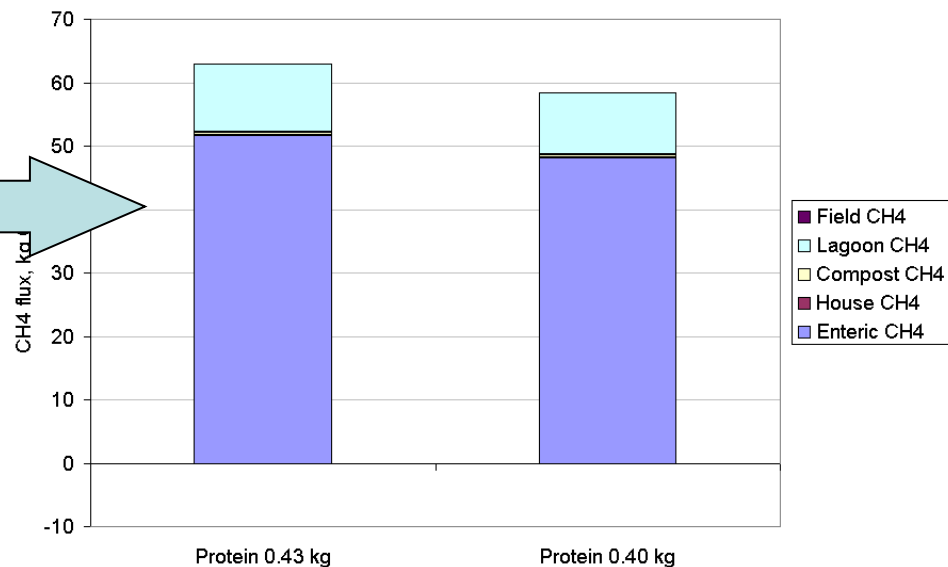


# Example: Reduction in CH<sub>4</sub> emissions from reduced dietary protein

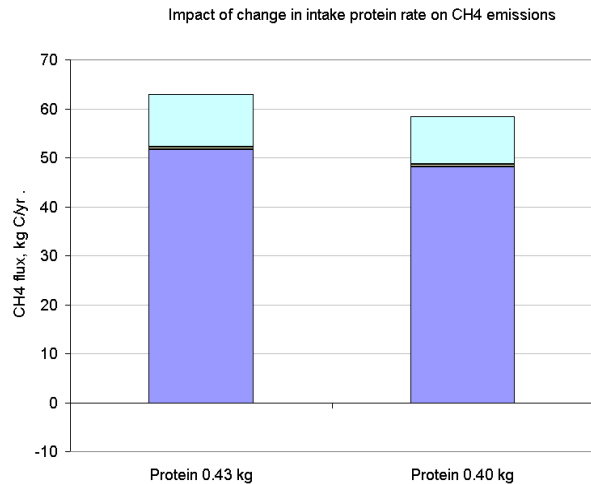
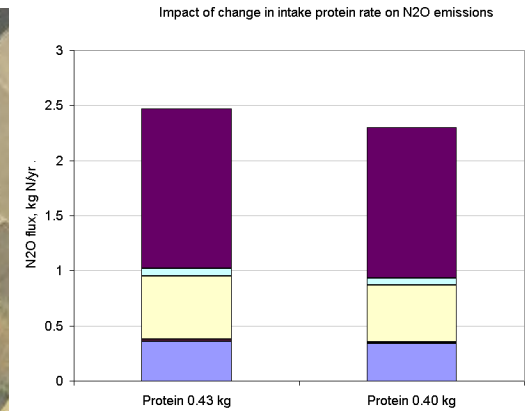
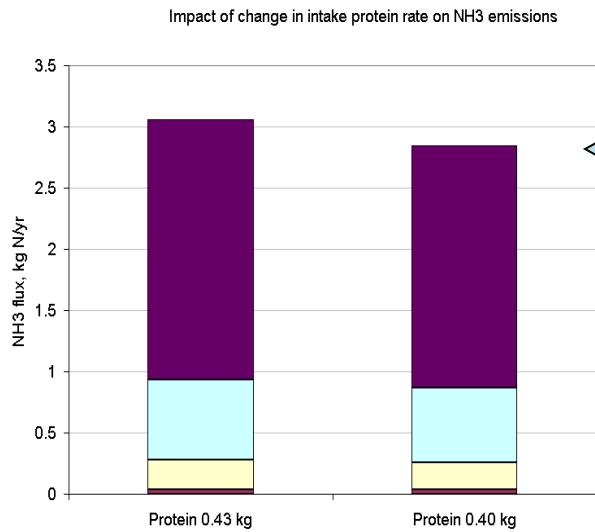
## Single Chino Farm: Implement better management practices



Impact of change in intake protein rate on CH<sub>4</sub> emissions

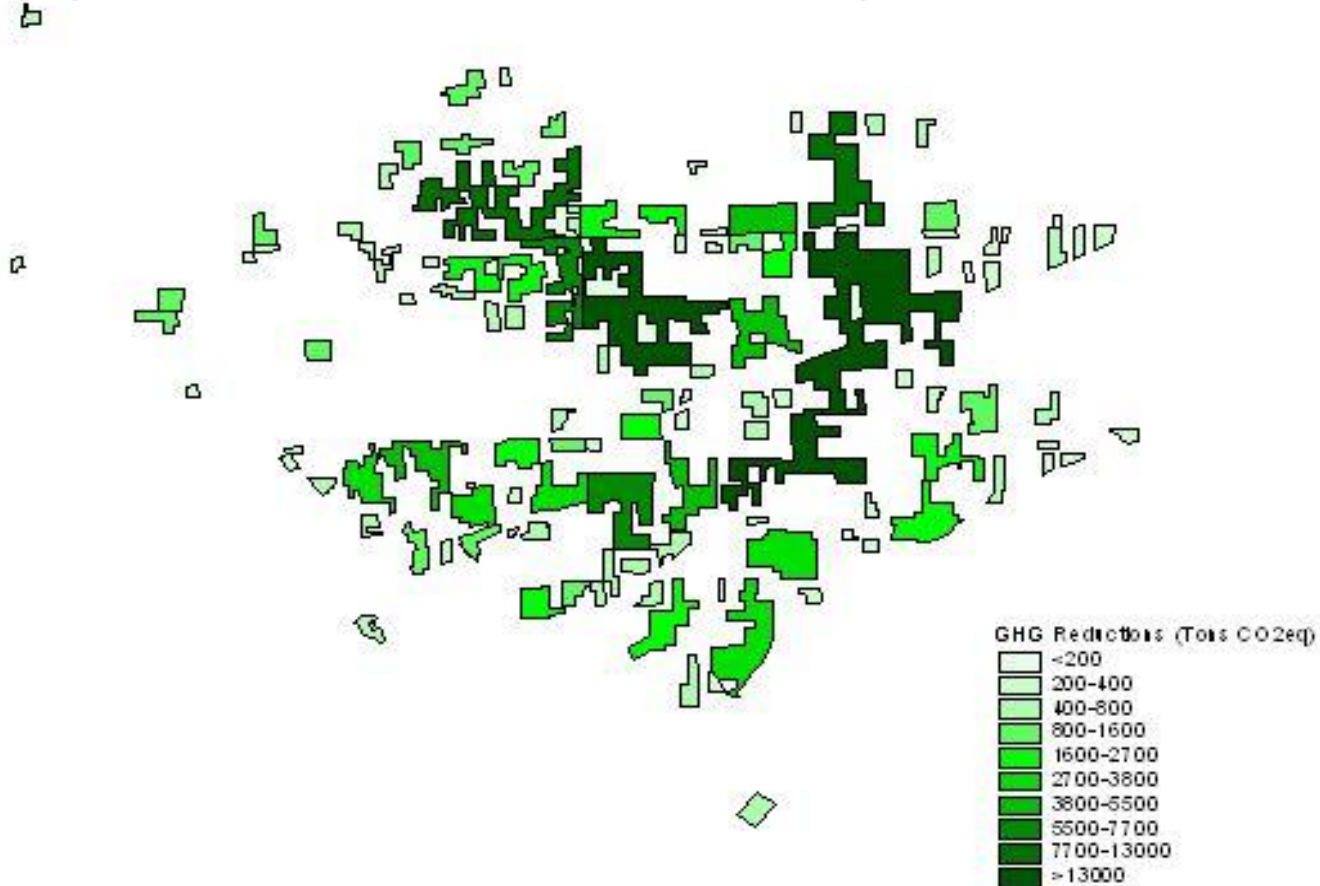


# Site-specific modeling of transferring better management practices to other farms



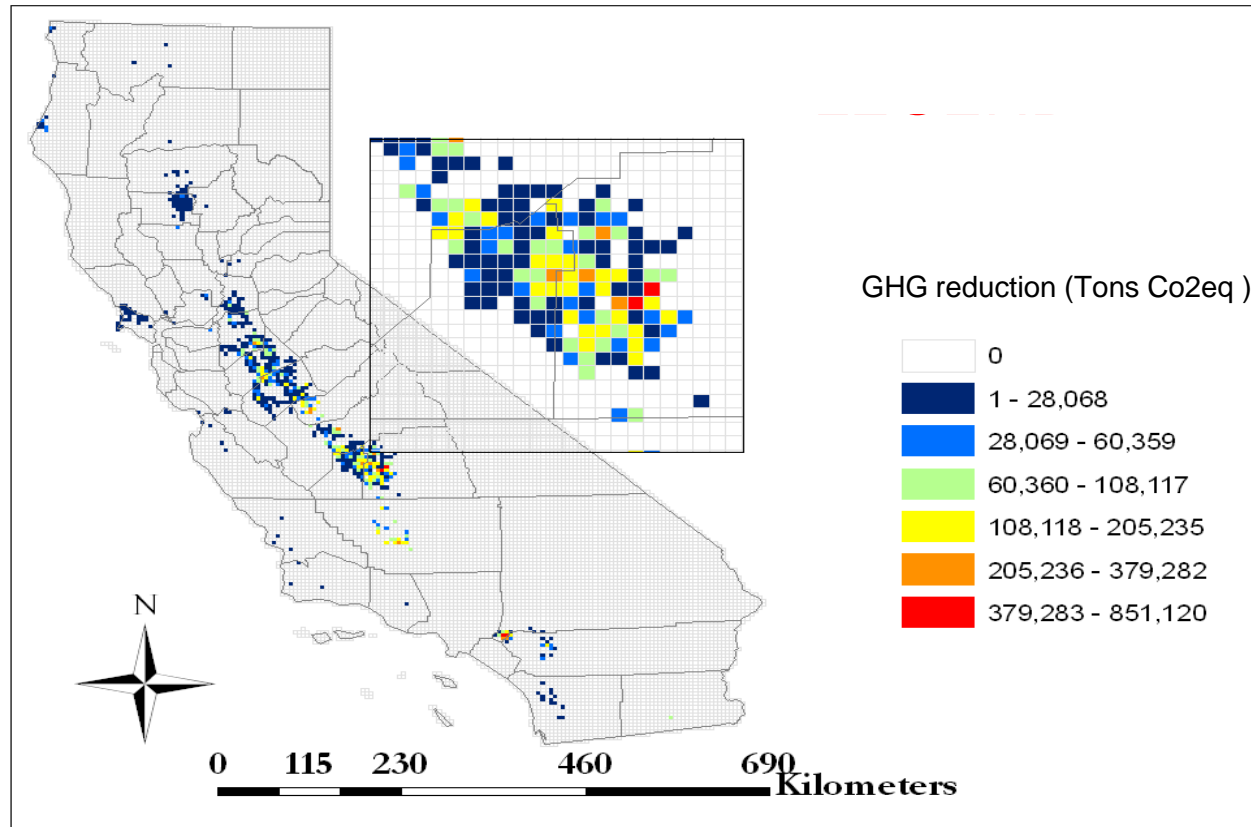
# Region-wide modeling

## Chino Region Farms: Adopt better management practices



# State-wide modeling

## California Farms: Adopt better management practices (feed/manure)



# What we have learned...

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## **Collaborate:**

Foster pre-competitive collaboration (contagious!).

Develop an 'AND' question

## **Measure:**

Stimulate research for sustainable food and agriculture

Measure to determine what really matters. LCA provides a snap shot in time,  
but the biological interdependencies needs to be connected to assist a farmer

## **Lead:**

Engage leadership in creating a roadmap

## **Innovate:**

Best and Next Practices project for today and tomorrow

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