The U.S. Dairy Sustainability Commitment

Dairy Farmers
Leadership
Collaboration
The Dairy Farmer

Dairy’s History of Environmental Stewardship

“We don’t inherit the earth from our ancestors, we borrow it from our children.”
## Leadership: Innovation Center for U.S. Dairy

<table>
<thead>
<tr>
<th>Anderson Erickson Dairy</th>
<th>Davisco Foods</th>
<th>Hilmar Ingredients</th>
<th>Maryland/Virginia Milk Producers Association</th>
<th>Schreiber Foods Inc.</th>
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<td>Associated Milk Producers Inc.</td>
<td>Dean Foods</td>
<td>HP Hood LLC</td>
<td>Michigan Milk Producers Association</td>
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<td>Foremost Farms</td>
<td>International Dairy Foods Association</td>
<td>Milk Processor Education Program</td>
<td>Shamrock Farms</td>
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<td>Dairy Farmers of America</td>
<td>Glanbia USA/Nutritionals</td>
<td>Kraft Foods Inc.</td>
<td>National Dairy Products</td>
<td>Southeast Milk</td>
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<td>Dairylea Cooperative, Inc.</td>
<td>Grupo LALA</td>
<td>Land O’Lakes</td>
<td>National Milk Producers Federation</td>
<td>Swiss Valley Farms</td>
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<td>Hilmar Cheese Company</td>
<td>Leprino Foods</td>
<td>Prairie Farms Dairy</td>
<td>United Dairymen of Arizona</td>
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<td>Darigold, Inc.</td>
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<td>U.S. Dairy Export Council</td>
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</table>
Priority: Sustainability

Consumers Leaning Green

Green Purchase Rate by Retail Format

Source: 2009 GMA/Deloitte Green Shopper Study
Priority: Sustainability

Other factors:
What does sustainability mean to you?

- Energy
- Natural Resources
- Water
- Greenhouse Gases
- Biodiversity
- Community
- Waste
- Human Health
Dairy and Sustainability

Definition for dairy:
Providing consumers with the nutritious dairy products they want in a way that makes the industry, people and the earth economically, environmentally and socially better – now and for future generations.
Sustainability: A Life Cycle Perspective

Crop Production → Milk Production

Crop Production

Milk Production

Transport

Processing

Packaging

Retail

Distribution

Consumer/End of Life

Waste & Pollution

Resources & Energy

INNOVATION CENTER FOR U.S. DAIRY

HEALTHY PEOPLE • HEALTHY PRODUCTS • HEALTHY PLANET
GHG Emissions for fluid milk = 28 Million Metric Tons CO$_2$e

Entire dairy industry = 2% of total U.S. greenhouse gas emissions
Overall Goal: 25% CO₂e reduction

Equal to taking 1.25 million passenger cars off the road every year
Strategic Stakeholders

- Employees
- Community
- "The Future" Kids
- CEO/Peers
- Suppliers
- B2B
- Competitors
- Health Professionals
- Academics
- Think Tanks
- NGO's
- Rulemakers & Watchdogs
- Business Partners & Competitors
- Consumers & Community
- Investors & Risk Assessors
- Idea Generators & Opinion leaders
- Dairy Industry
- Industries
- Shareholders
- Insurers
- Markets
- Banks
- Regulators
- Politicians
- Media

Source: Green to Gold pg 97
GHG Reduction Projects

- Dairy Feed Systems
- Cow of the Future
- Dairy Power
- Dairy Underground
- FEAP
- D-CREE
- Non-Thermal UV
- Next Generation Clean-In-Place
- Dairy Delivery Systems LCA
- E-SMART
Innovation Center and USDA
Sustainability Memorandum of Understanding

A Partnership for Sustainability
Supporting Sustainability

- Seeking additional funding, volunteers, and resources to support project areas:
  - Crop production
  - Milk production
  - Dairy processing
  - Dairy packaging
  - Dairy distribution
  - Transportation
Where Do We Go From Here?
A Bright Year Ahead

■ Reach key milestones
  - Finalize and publish fluid milk LCA
  - Additional research: cheese, packaging

■ Work toward our greenhouse gas reduction goals
  - Project teams working together
  - Individual companies establishing their own goals and action plans
  - Best practices and case studies shared on USDairy.com/sustainability
  - Decision-support tools

■ Continue to tell the story of our commitment: past, present, future
Dimensions of Sustainability

- Energy
- Natural Resources
- Water
- Greenhouse Gases
- Biodiversity
- Community
- Waste
- Human Health
Thank You!

Any questions?
Greenhouse Gas Reduction Projects – On-Farm

Cow of the Future

- Partnering with the U.S. Dairy Forage Research Center
  - Researching innovations in feed efficiency practices to reduce enteric emissions and increase yield
Greenhouse Gas Reduction Projects – On-Farm

**FEAP**
- In 2009, 67 on-farm energy audits were conducted
  - Helps identify ways to reduce energy use and cut utility costs

**Dairy Power**
- Summit convened in New York State to develop plan for overcoming barriers to anaerobic digesters
  - Brought together producers, regulators, utilities and suppliers
  - Goals and action plan established to benefit farms of all sizes
  - Summits in other regions to come
Greenhouse Gas Reduction Projects – Processing

D-CREE
- Energy efficiency best practices
  - Refrigeration, lighting, steam systems

Non-Thermal UV Technology
- University of California Davis testing pasteurization alternatives
  - Non-thermal technologies could save industry over $30 million annually

Next Generation Clean-in-Place
- Reduced-temperature cleaning being tested
  - New technologies could reduce processor energy use by 50 percent
Greenhouse Gas Reduction Projects – Packaging & Transportation

**Dairy Delivery Systems LCA**
- Life cycle assessment of packaging alternatives currently under way
  - Will identify opportunities for decreased material use and improved environmental performance

**E-SMART**
- Innovation Center and several partner organizations became EPA SmartWay Affiliates
  - SmartWay helps identify opportunities for reduced fuel use
  - Goal to expand participation in SmartWay
  - Innovation Center project team is developing dairy-specific best practices