“Hey, wait a minute! This is grass! We've been eating grass!”
Dairy Producer Industry In New England

- 2,200 farms in New England with milk cows
- 1 million acres of cropland, pasture, and woodland
- Small and mid-sized dairy farms are still the norm in New England
  - Fewer than 1% of operations have more than 1,000 milk cows
- Produce 4.2 billion pounds of milk in New England
  - About half the dairy consumption in New England
- Annual economic revenue of $708 Million (2016)
  - Average annual contribution of $13,900 per cow (MA)
Milk Cows, 2007-2016
United States

2% Increase over the past 10-year period

USDA-NASS
02-21-2017
The New England dairy industry is facing significant challenges.

Farmers are caught between rising costs of production and milk prices that fluctuate wildly.

Graph shows fluctuating price of milk farmers received between 1979 and 2009. Note the extreme swings after 1999.
Pollution Prevention Act of 1990

- Used “source reduction” to combined economic and environmental goals.
- Runs a national Pollution Prevention grant program for states and non-profits.
- Helped kick-start the environmental sustainability movement by offering technical assistance and voluntary partnership programs.
Transportation Hierarchy
Party Logistic (PL) Model

Source: http://cerasis.com/2013/08/08/3pl-vs-4pl/
Program Components

- Measurement and Tracking Tools
- Technology Verification
- Educational Resources
  - Webinar Series
  - On-line Guides and Documents
- Recognition
  - Smartway logo
  - Annual Awards and Recognition
Technology Verification

Idling Reduction Technology
(for trucks and school buses)

Aerodynamic Devices
(for trucks)

Low Rolling Resistance Tires
(for trucks)
Transportation Logistics

**Reduce Miles**
- Distribution center relocation
- Route optimization

**Reduce Weight (Load optimization)**
- Full loads and load sharing
- Filling backhaul (with recyclables and other products)
- Alter products, packaging, and pallets

**Reduce Time**
- Window optimization

**Energy management**
- Temperature monitoring and optimization
- Segregate cargo by temperature
- Right-sized trucks
- Onboard idle reduction technology
Logistics Case Study
Tropicana and Ocean Spray

Backhaul with refrigerated rail

MA and NJ

Florida
Food/Bev and Grocery Partners

Tyson
Chiquita
Kraft Foods
Ocean Spray
Walmart
Big Y
HEB
Stonyfield
PepsiCo
World Class Fleet
Gorton's
Coca-Cola Enterprises Inc.
Kens Salad Dressings
Foremost Farms USA
Dannon
Program Results

• 3,200 partners & 250 affiliates
• 22% of truck miles represented

Reductions
• 73 million metric tons of CO₂
• 1.5 million tons of NOx (Nitrogen Oxides)
• 60 thousand tons of PM (Particulate Matter)
• 7 billion gallons of fuel
• $25 billion dollars in fuel cost
Compliance Assistance

- Outreach and education activities that improve the compliance of the regulated community.
- Provide webinars, training, and guidance documents that promote compliance.
- Proactive approach to improving health, safety and environmental performance.
The New England Ice Trade (1856)

Source:
https://en.wikipedia.org/wiki/Ice_trade

Frederick Tudor
Boston’s “Ice King”
(1788-1864)

Resting Place: King’s Chapel Burying Ground
Anhydrous Ammonia

- Colorless gas (NH₃)
- Efficient Refrigerant
- Heavier than air
- Dissolves easily in water to form Ammonia hydroxide, a caustic solution.
Swan Valley Cheese of Vermont, Swanton, VT
Takeaways

▸ Opportunities abound to stay economically and environmentally sustainable.
▸ Be smart about how you use your time and resources.
▸ Build a network of trusted experts, advisors and other “helpers.”
And, as you travel life's highway, don't forget to stop and eat the roses.

Cow philosophy
Thank You

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