

SUSTAINABLE DAIRY PRODUCTS



NORTHEAST SUMMIT

Monday, February 12, 2018

Norwich Town Hall • 300 Main Street • Norwich, VT



EPA New England

Assistance and Pollution Prevention

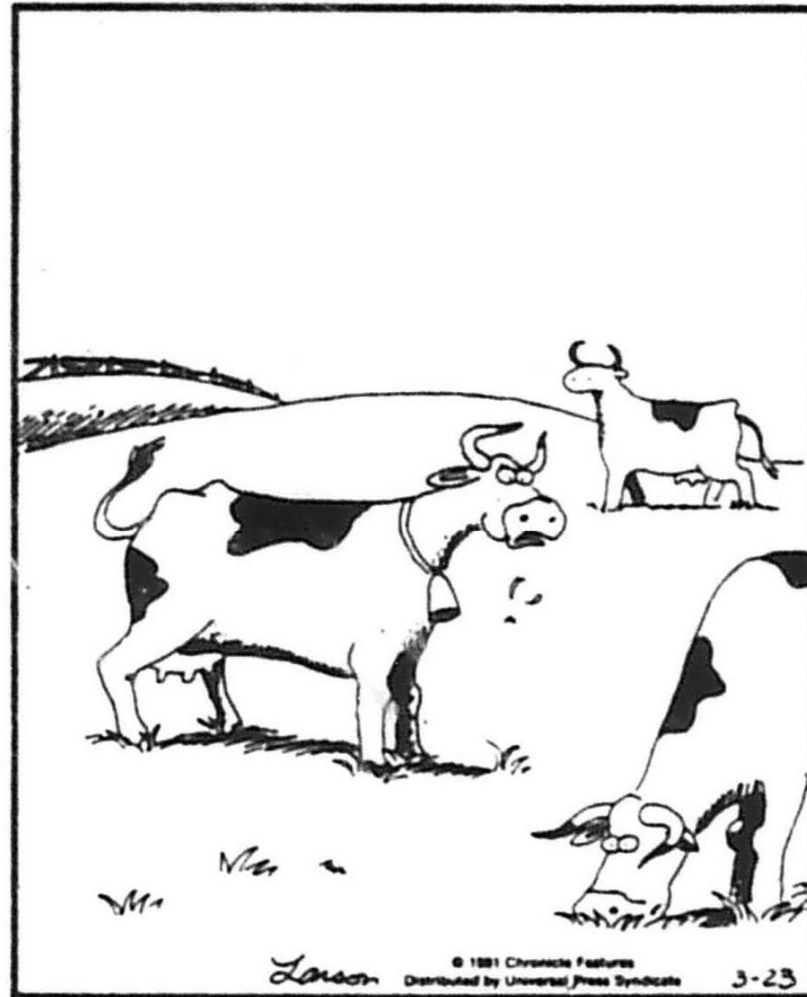
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Robert Guillemín
Sustainable Food Industry
EPA New England

THE FAR SIDE by Gary Larson

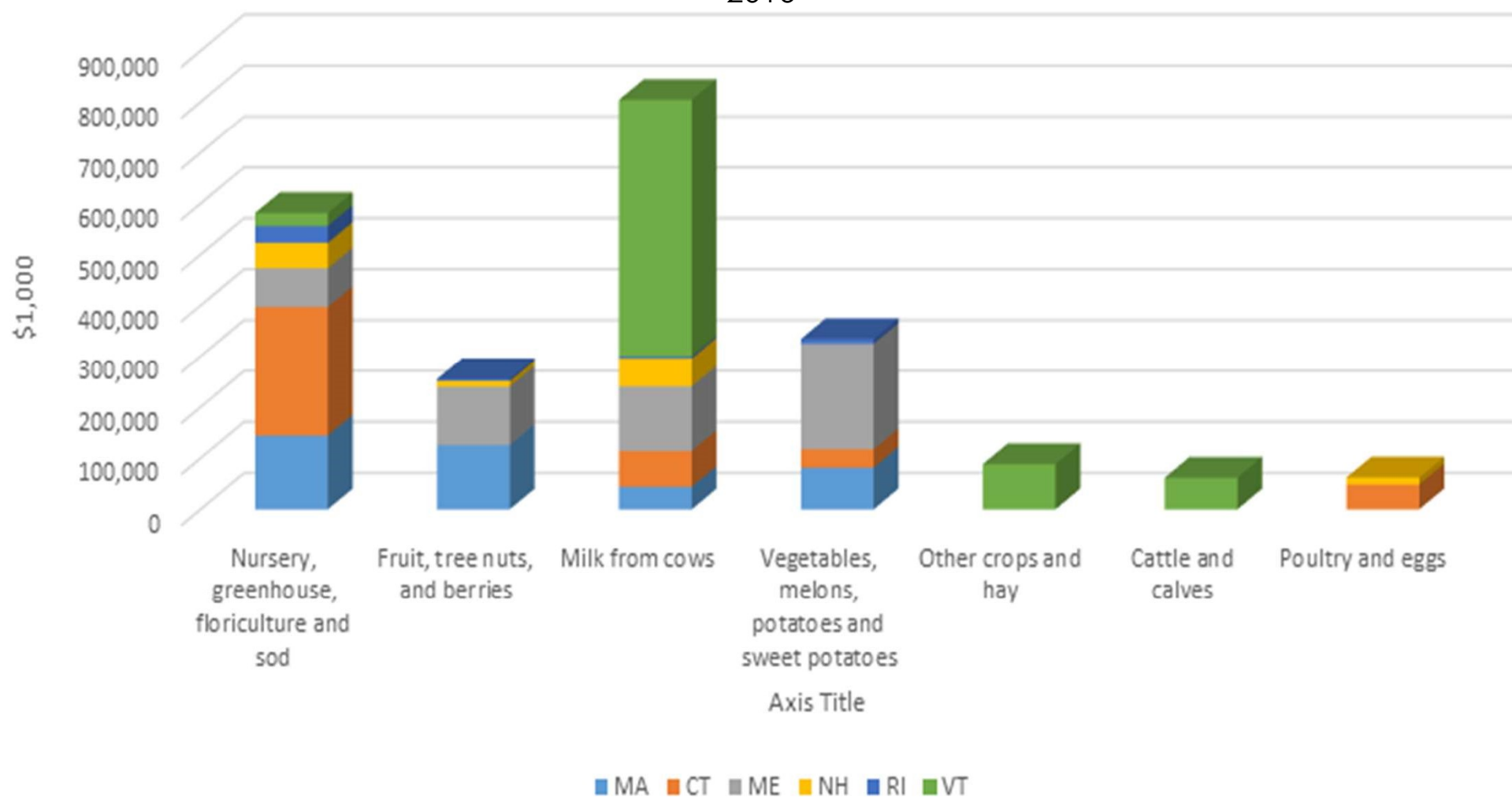


“Hey, wait a minute! This is grass! We've been eating grass!”

Dairy Producer Industry In New England

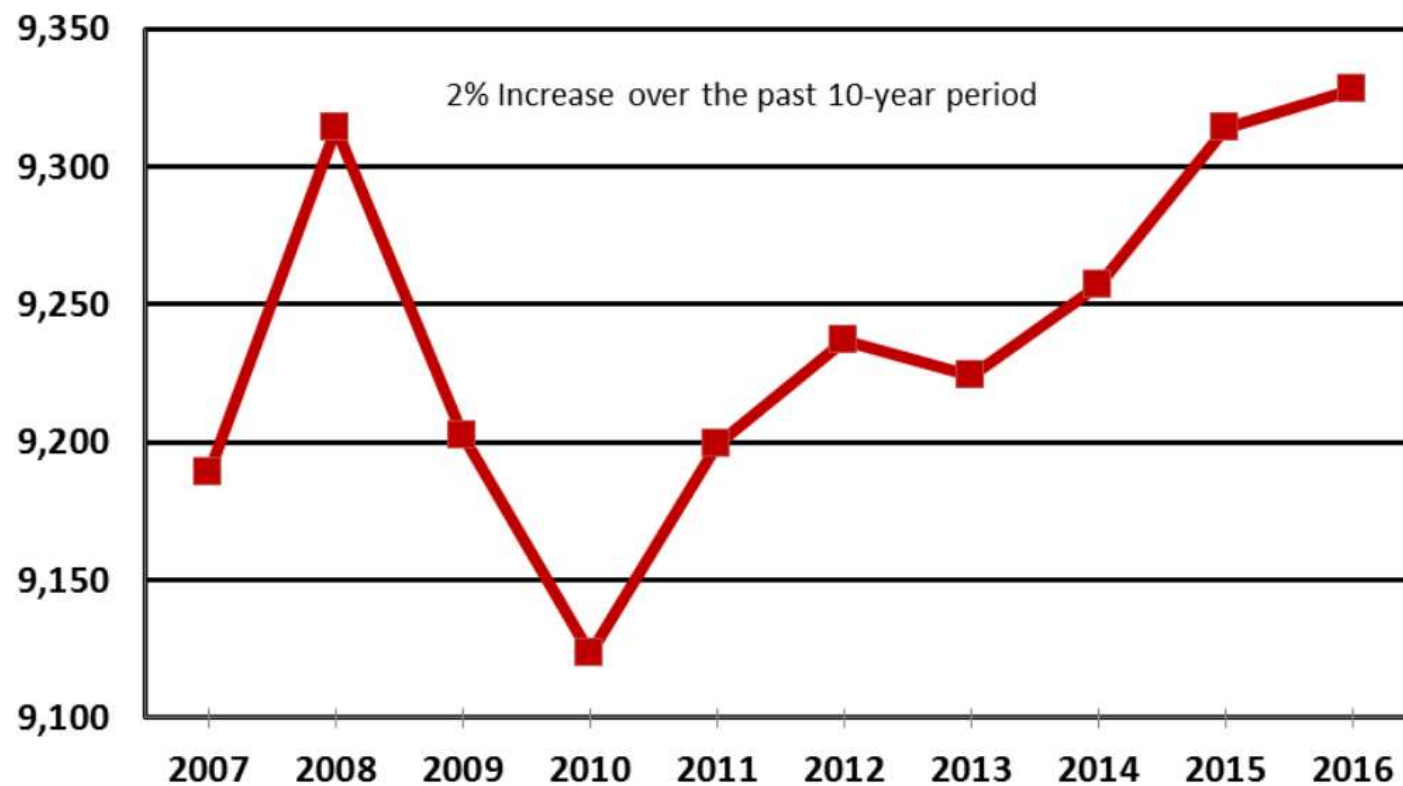
- ▶ 2,200 farms in New England with milk cows
- ▶ 1 million acres of cropland, pasture, and woodland
- ▶ Small and mid-sized dairy farms are still the norm in New England
 - ▶ Fewer than 1% of operations have more than 1,000 milk cows
- ▶ Produce 4.2 billion pounds of milk in New England
 - ▶ About half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

Top 4 Ag. Commodity Revenues by State (New England)
2016



Milk Cows, 2007-2016 United States

Thousand Head



USDA-NASS
02-21-2017

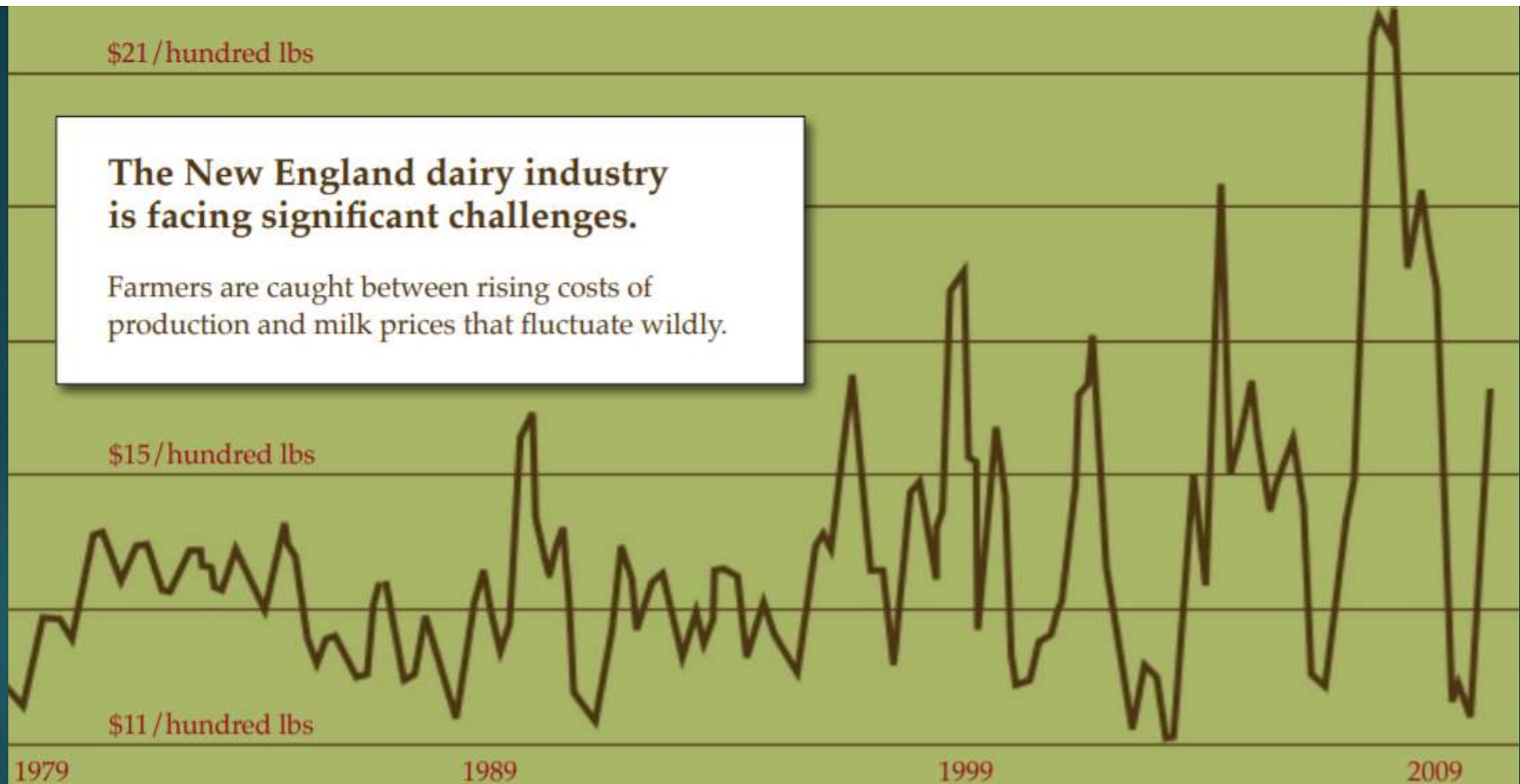
\$21/hundred lbs

**The New England dairy industry
is facing significant challenges.**

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

\$15/hundred lbs

\$11/hundred lbs



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.



SmartWay

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Attention Truck Carrier Partners:

The [2017 SmartWay Truck Carrier Tool](#) is now available, with supporting documents.



SmartWay Latest News

Watch our new [About SmartWay](#) video to learn how efficient freight improves supply chain performance!

[More SmartWay News](#)

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- [Why Freight Matters](#)
- [How SmartWay Advances Sustainable](#)

Participate in SmartWay



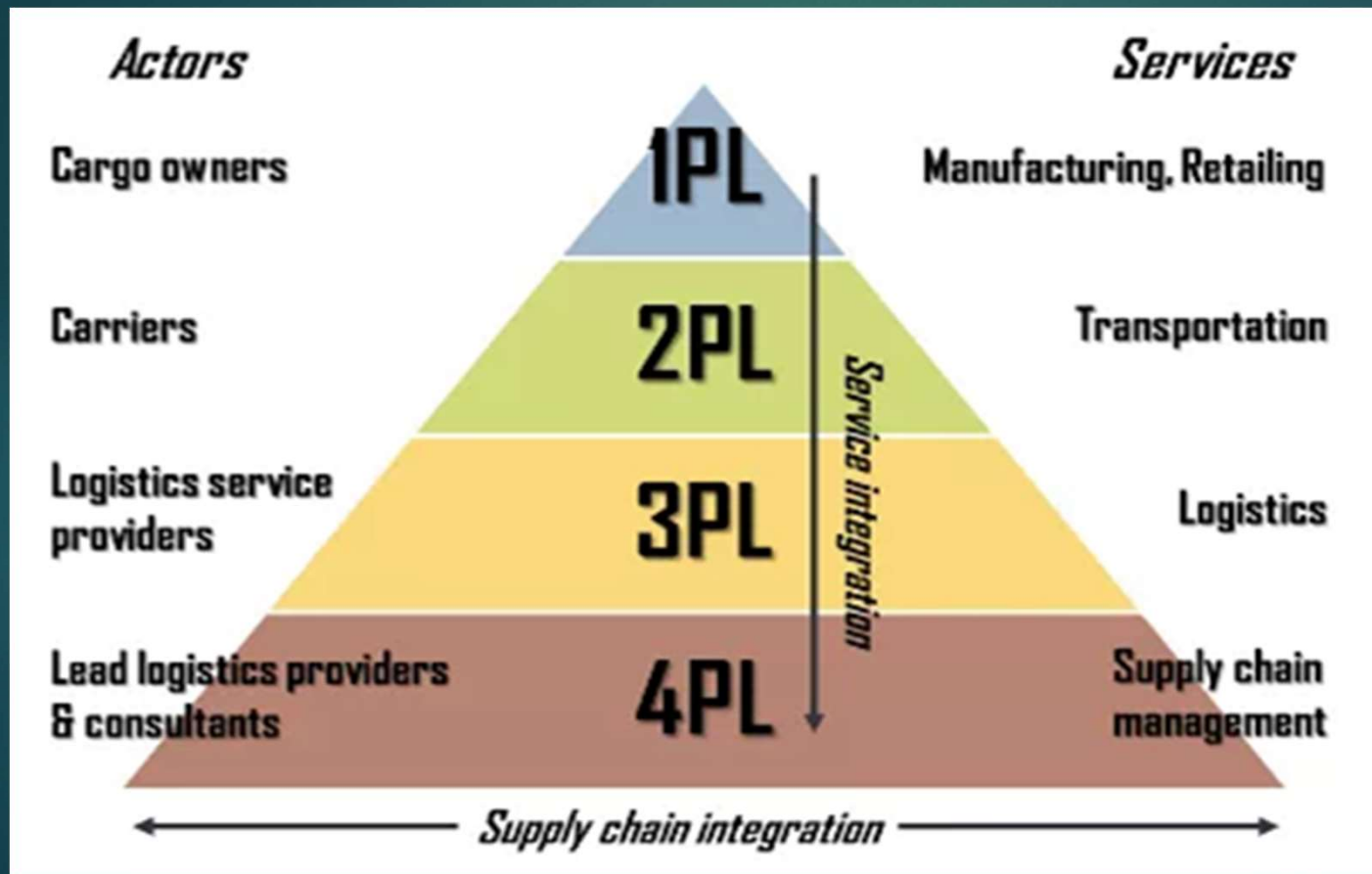
- [How to Participate in SmartWay](#)
- [How the SmartWay Partnership Works](#)
- [Become a SmartWay](#)

Upcoming Webinars & Events

- **Education Webinar:**
February 22, 2017 [2017 SmartWay Excellence Award webinar](#)
- **Tool Advanced Webinar:**
February 23, 2017 [SmartWay Truck Tool-Advanced Class: Getting the Most out of](#)

Transportation Hierarchy

Party Logistic (PL) Model



} Shippers

} Carriers

} Logistic Providers (3PL and 4PL)

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

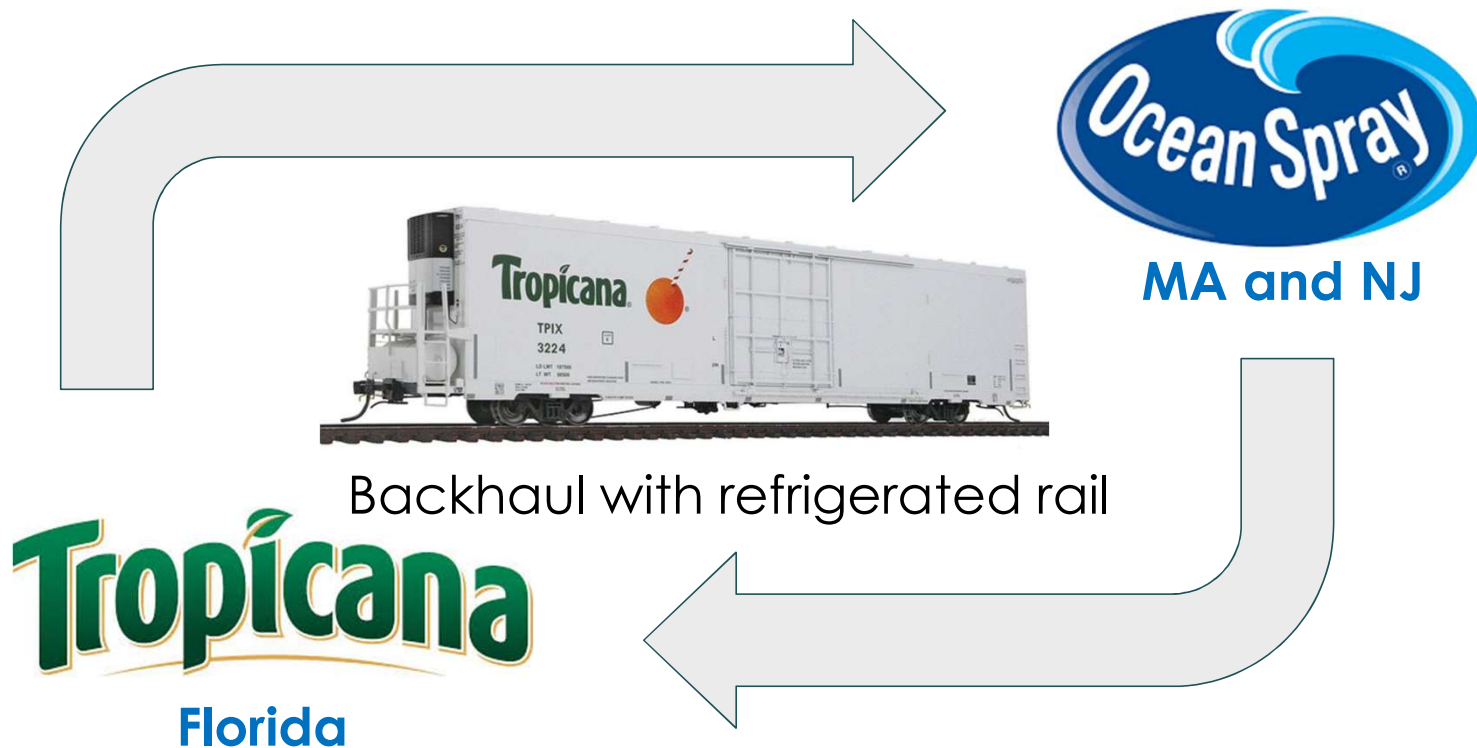
- Window optimization

Energy management

- Temperature monitoring and optimization
- Segregate cargo by temperature
- Right-sized trucks
- Onboard idle reduction technology

Logistics Case Study

Tropicana and Ocean Spray





Food/Bev and Grocery Partners



Program Results

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

Reductions

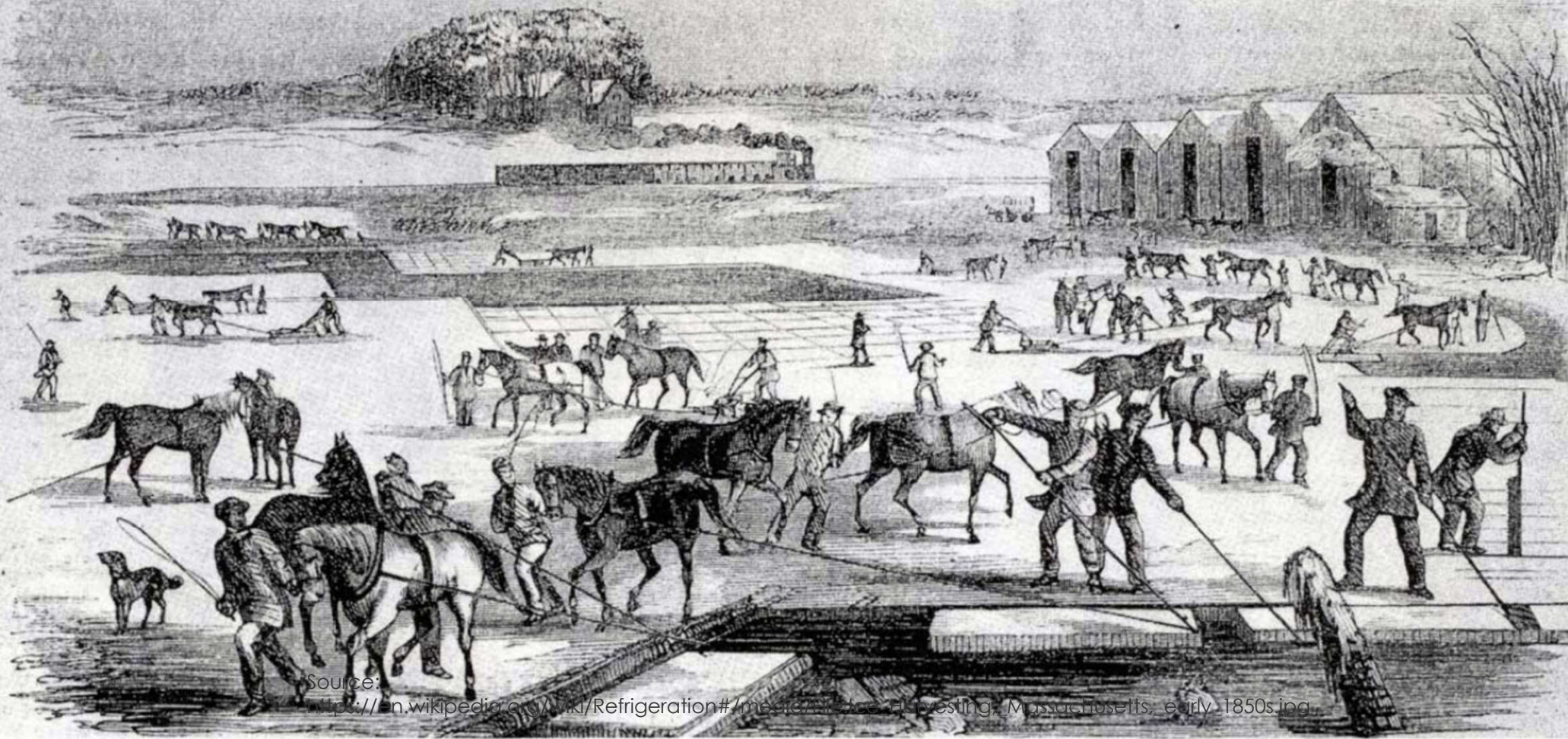
- 73 million metric tons of CO₂
- 1.5 million tons of NOx (Nitrogen Oxides)
- 60 thousand tons of PM (Particulate Matter)
- 7 billion gallons of fuel
- \$25 billion dollars in fuel cost

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.

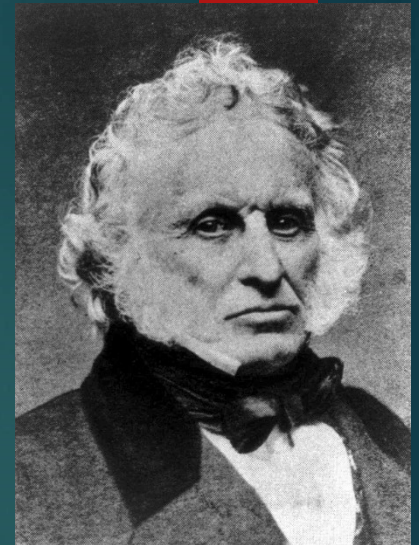
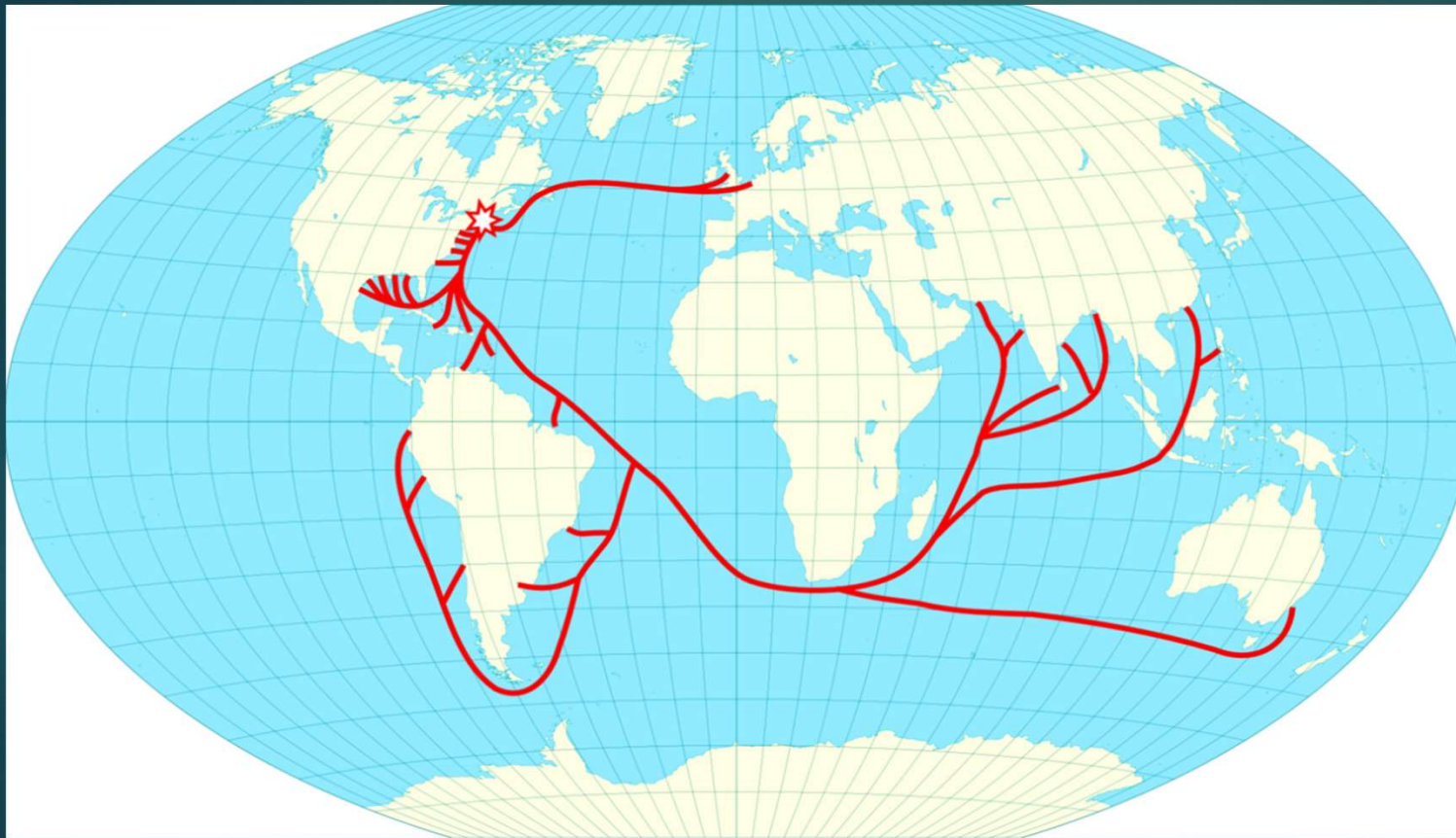
Ice Harvesting in Massachusetts (1852)



Source:

http://en.wikipedia.org/wiki/Refrigeration#/media/File:Ice_Harvesting_Massachusetts_early_1850s.jpg

The New England Ice Trade (1856)



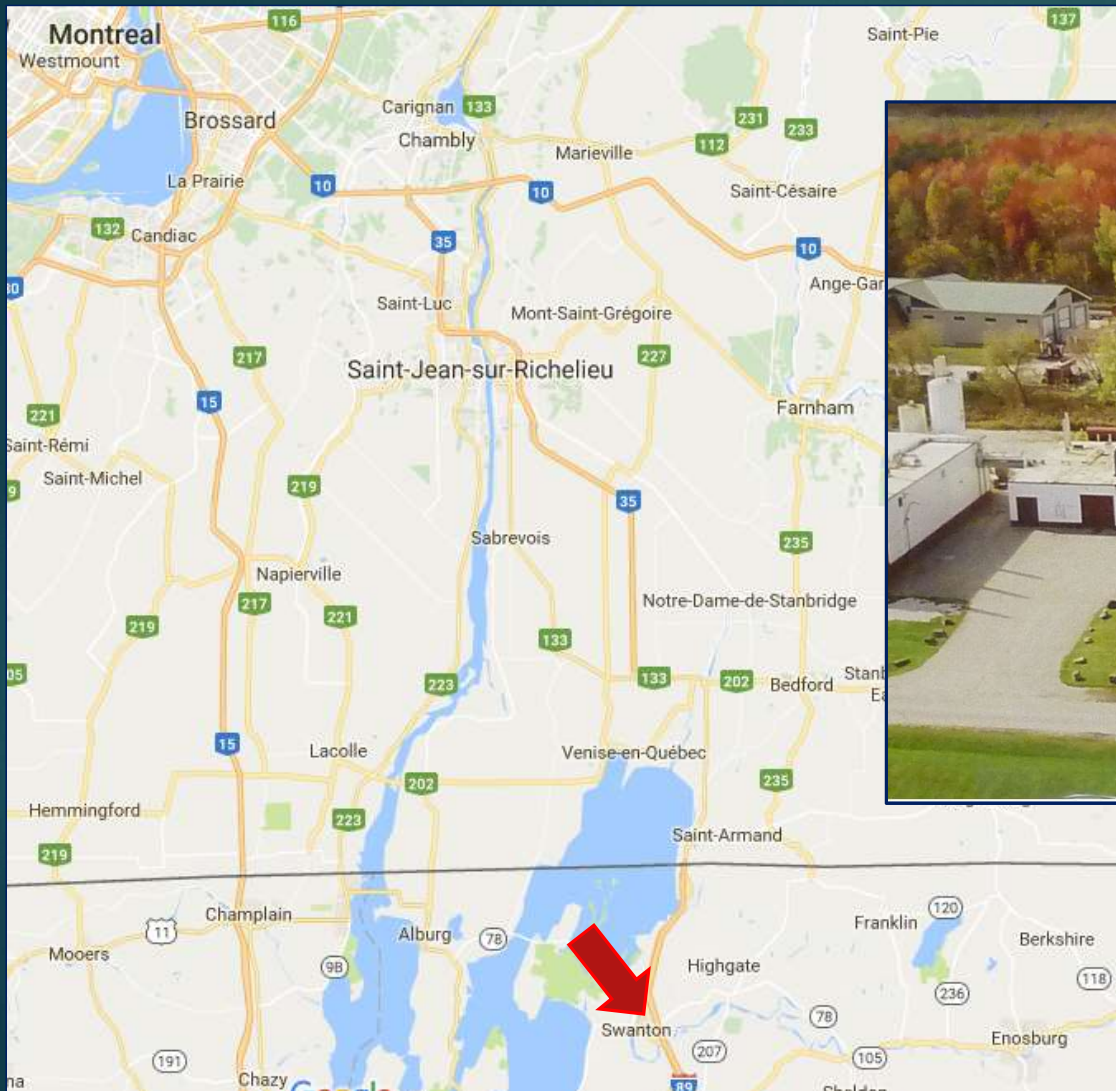
Frederick Tudor
Boston's "Ice King"
(1788-1864)

Resting Place: King's
Chapel Burying Ground

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

Anhydrous Ammonia

- ▶ Colorless gas (NH_3)
- ▶ 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.”



Cow philosophy



Thank You

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