Climate Change & Agriculture

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Land O’Lakes, Inc.

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We operate four diversified agribusinesses, driven by insights & innovation

**WinField® United**  
Crop Inputs & Insights  
Agricultural products, data, technology tools and services

**Purina**  
Animal Nutrition  
Solutions that enhance performance and well-being

**LAND O LAKES®**  
Dairy Foods  
Milk-based products and ingredients

**Land O’Lakes SUSTAIN™**  
Environmental sustainability solutions
Our unique farm-to-fork business model enables us to see things differently
Ability to influence sustainability from farm to fork

**OUR FARMER-OWNERS**
- 2,200 dairy producers
- 1,270 ag producers
- 800 ag retail co-ops

**WE TOUCH**
- 50% U.S. harvested acres
- 25% U.S. producers
US Milk Production Shifting Back to Midwest and Northeast

- CA milk production has declined from 2012 due to competing crops, regulatory issues, and drought.
- Strong milk profitability over the past five years has resulted in strong growth in the Midwest and East (dumping is a problem).
- Expecting growth to continue in the Midwest and East with CA stabilizing to flat growth due to less concerns about drought.
Feed production moving North might further accelerate these milk production shifts

- Feed moving North is getting it closer to Midwest milk sheds, which may further reduce their feed cost and improve profitability

- Climate change impacts on water availability and feed production shifts may put further pressure on milk production in W and SW milk sheds
Crop mix shifts will likely continue to exacerbate the trucker shortage issue

- Transportation demand likely to shift from barge to more rail and truck
  - Railroads likely have capacity to absorb these increases, driven by reductions in coal and impending decreases in oil as pipeline infrastructure grows
  - Trucking industry is already facing capacity issues due to driver shortages

- Other investments into the infrastructure might be necessary to accommodate shifting volumes
  - E.g. (rail)roads and loading capacities
U.S. Market Influences and Assumptions

Dairy farmer growth mentality
Expansions during past boom times require satisfaction in challenging times
Historic growth of 1 – 2 % per year
Dairy profitability remains high
Production shifting back to Midwest/East from CA
Limited plant capacity expansion

All leading to milk oversupply
Global Market Influences and Assumptions

NAFTA renegotiation
Importers (China, Russia, Venezuela, others) scaled back
European Union greatly increased its dairy production
Dollar on a multi-year climb, making U.S. exports less competitive
Thank you