

# DAIRY NOURISHES LIFE

Helping  
people thrive  
across the lifespan

## WEBINAR SERIES

### Reminders:

- To receive your continuing education certificate, please fill out the survey that pops up as you exit zoom
- The recording, slides and continuing education certificates will be available on USDairy.com next week
- This webinar was approved for continuing education credits through CDR and ACSM
- Performance Indicators:
  - **8.2.3** Implements individualized services to reflect customer-centered approach as it pertains to the customer's physical, social, cultural, institutional and economic environment.
  - **2.3.1** Applies the principles of collaboration and negotiation in teamwork
  - **7.2.6** Identifies and promotes sustainable, resilient, healthy food to staff, customers and public
  - **7.2.3** Communicates the role of sustainable food practices and food insecurities for populations

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## Speaker Disclosures

### Abbey Copenhaver, MS, RD

Ivy Lakes Dairy  
Farmstead Nutrition & Consulting  
National Dairy Council Ambassador  
Team Chocolate Milk Athlete  
ADA NE Spokesperson  
Dairy Sustainability Alliance Farmer Representative  
Innovation for U.S. Dairy Stewardship Task Force

### Austin Allred

Royal Dairy  
Northwest Farm Credit, Advisory Board  
Dairy Federation, Board Member  
Eastern Washington Family Farmers, Board Member  
AWB, Board Member  
Royal Protein, Owner  
Nurst, Owner

### Brett Reinford

Reinford Farms, Partner  
Reinford Transport, Partner  
Professional Dairy Manager of Pennsylvania, Board Member

### Alise Sjostrom

Jer-Lindy Farms  
Redhead Creamery

### Adam Wylie

Leprino Foods

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## Webinar Reminders

### During the webinar

- Please type questions into the Q&A Box
- Share on social with **#DairyNourishesLife**
- Visit <https://support.zoom.us/hc/en-us> for technical support

### After the webinar

- Complete a short evaluation to receive continue education certificate
- Visit [www.USDairy.com](http://www.USDairy.com) next week for a webinar recording and pdf of slides

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**SHOW ME,  
DON'T TELL ME.**

*Dairy Innovations for a  
Sustainable Future.*



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**DID YOU KNOW,  
PRODUCING A GALLON OF MILK  
IS GETTING GREENER?**

America's dairy farmers are committed to feeding people while taking care of the planet.




Judith L. Copper, Roger A. Cady,  
The effects of improved performance  
in the U.S. dairy cattle industry on  
environmental impacts between  
2007 and 2017,  
Journal of Animal Science,  
Volume 98, Issue 1, January 2020,  
sk2291. <https://doi.org/10.1093/jas/skz291>

The amount of carbon dioxide removed from the atmosphere by half a million acres of U.S. forest

Land savings of 100,000 NFL-sized football fields

Eliminating the average water consumption of ~29 million U.S. households

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<https://pubmed.ncbi.nlm.nih.gov/31622980/> 

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## U.S. dairy is an environmental solution

**By 2050, U.S. dairy collectively commits to:**

-  Become **carbon neutral or better**
-  **Optimize water use** while maximizing recycling
-  **Improve water quality** by optimizing utilization of manure and nutrients



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**U.S. Dairy Sustainability Awards**  
Innovation Center for U.S. Dairy.

**Austin Allred**  
Royal Dairy  
Royal City, WA

**Adam Wylie**  
Leprino Foods  
Greeley, CO

**Alise Sjostrom**  
Jer-Lindy Farms  
Redhead Creamery  
Brooten, MN

**Abbey Copenhaver, MS, RD**  
Ivy Lakes Dairy  
NDC Ambassador  
Stanley, NY

**Brett Reinford**  
Reinford Farms  
Mifflintown, PA

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**Contributions of Dairy Products to Environmental Impacts and Nutritional Supplies from United States Agriculture.**

D. L. Liebe,<sup>1</sup> M. B. Hall,<sup>2</sup> and R. R. White<sup>1\*</sup>

<sup>1</sup>Department of Animal and Poultry Science, Virginia Tech, Blacksburg, VA 24060  
<sup>2</sup>U.S. Dairy Forage Research Center, USDA-ARS, Madison, WI 53706

**Modeling Study**

Removing dairy cows from the U.S. food system would have little impact on greenhouse gas emissions, but significant consequences on nutrient supply.

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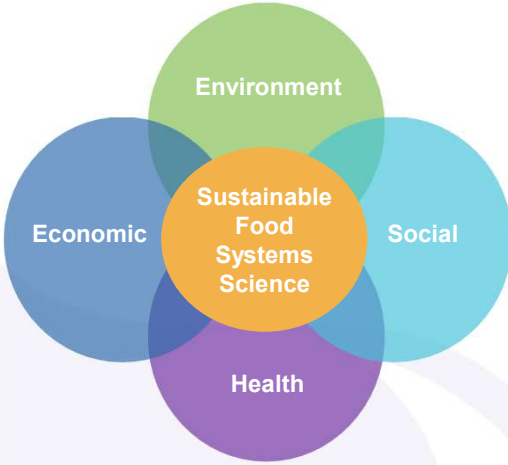
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## Context is Important 4 Domains of Sustainable Food Systems



**Health**

- Dairy foods and ingredients help nourish people and support food security across the lifespan and around the world

**Environment**


- Dairy's ongoing and ambitious commitments to environmental stewardship links sustainable food systems to the SDGs

**Economic**

- Strengthening global dairy communities can empower prosperous and fulfilling lives

**Social**

- Dairy foods are accessible, delicious and enjoyed around the world as part of diverse dietary patterns

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# Farming to the Future

**Feed production & practice changes:**

- No/low-till farming and cover crops
- Renewable fertilizers
- Precision agriculture

**Cow care & efficiency:**

- Feed additives
- Optimized feed rations
- Genetics
- Technology for farm animal management
- Cow comfort & health

**On-farm energy efficiency & renewable energy usage:**

- LED lighting, variable speed vacuum pumps, high-efficiency refrigeration, and fans
- Conversion of biogas into electricity and/or renewable natural gas
- Renewable energy sources from wind/solar

**Manure handling & nutrient management:**

- Nutrient Management Planning (NMP)
- Anaerobic digesters turn manure into biogas

- Technologies to capture nutrients and create new manure-based products
- Reduced liquid manure storage and proper maintenance

Visuals do not represent all possible practices, technologies or benefits. Each farm can voluntarily contribute to net zero efforts based on their individual operation.

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# On Farm Benefits

**Feed production & practice changes:**

- Healthy soils
- Water resistant soils
- Improved nutrient and carbon cycling
- Enhanced air and water quality
- Ecosystem services

**Cow care & efficiency:**

- Healthier cows
- Increased milk production
- Reduced GHG intensity

**Renewable energy:**

- Renewable electricity, heat, vehicle fuel and natural gas
- Ecosystem services

**Manure handling & nutrient use:**

- Transportable, high-quality fertilizers

- Animal Bedding
- Clean, recycled water

- Compost
- Ecosystem Services

Visuals do not represent all possible practices, technologies, or benefits. Each farm can voluntarily contribute to net zero efforts based on their individual operation.

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# Off Farm Benefits



- Nutritious milk and food
- Improved air quality
- Reduced greenhouse gas emissions
- Improved water quality
- Electricity for communities
- Soil health and water resistance
- Renewable natural gas for vehicles
- Biodiversity
- Renewable fertilizers
- Carbon sequestration and greenhouse gas reduction
- Alternative to landfill for food waste

Visuals do not represent all possible practices, technologies, or benefits. Each farm can voluntarily contribute to net zero efforts based on their individual operation.  
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- Cow Care
- Manure Management
- Nutrient Management for Soil
- Water Stewardship

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# Sustainability at Ivy Lakes



Employee Development



Cow care



Cow nutrition and genetics

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# Sustainability at Ivy Lakes



Feed management



Equipment & technology



Field improvements  
(Picture: tiling)

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## Sustainability at Ivy Lakes



**Manure Management  
Manure Separator:**  
Able to use manure for cow stall bedding and fertilizer

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## Poll Question

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**Food Waste Reduction**

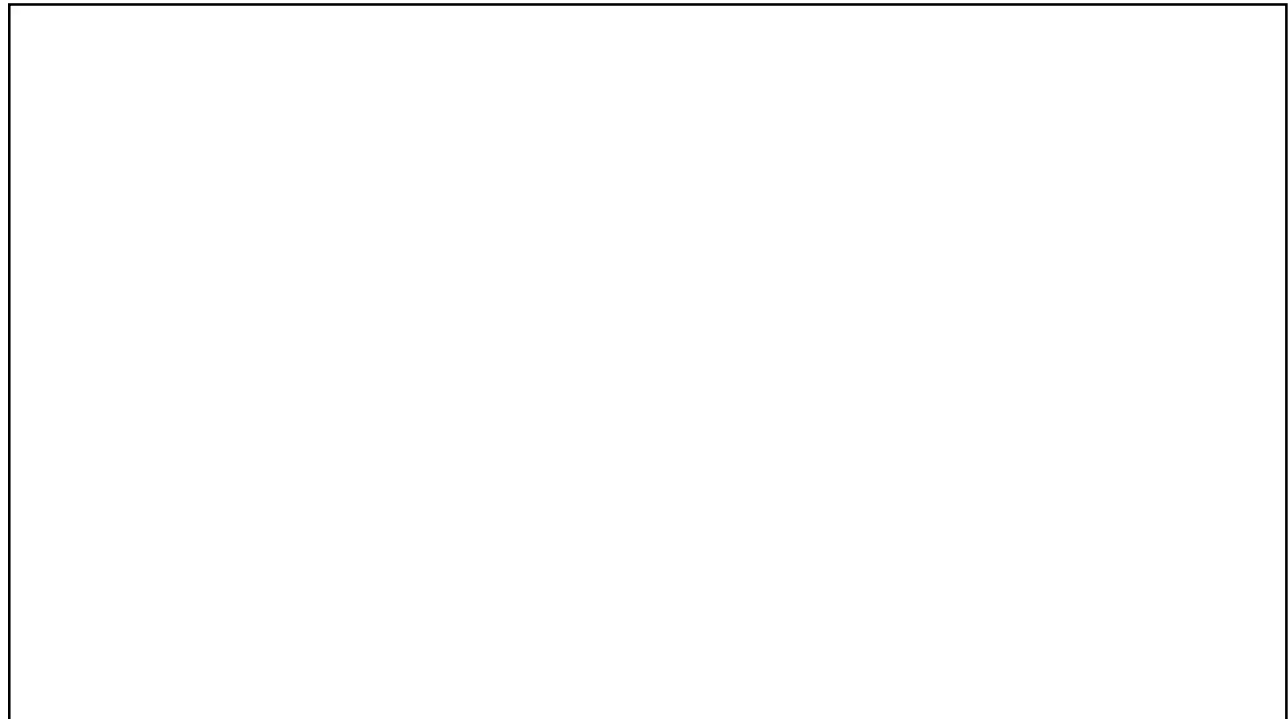
**Manure Management**

**Nutrient Management  
for Soil**

**On-farm Energy Efficiency &  
Renewable Energy Use**

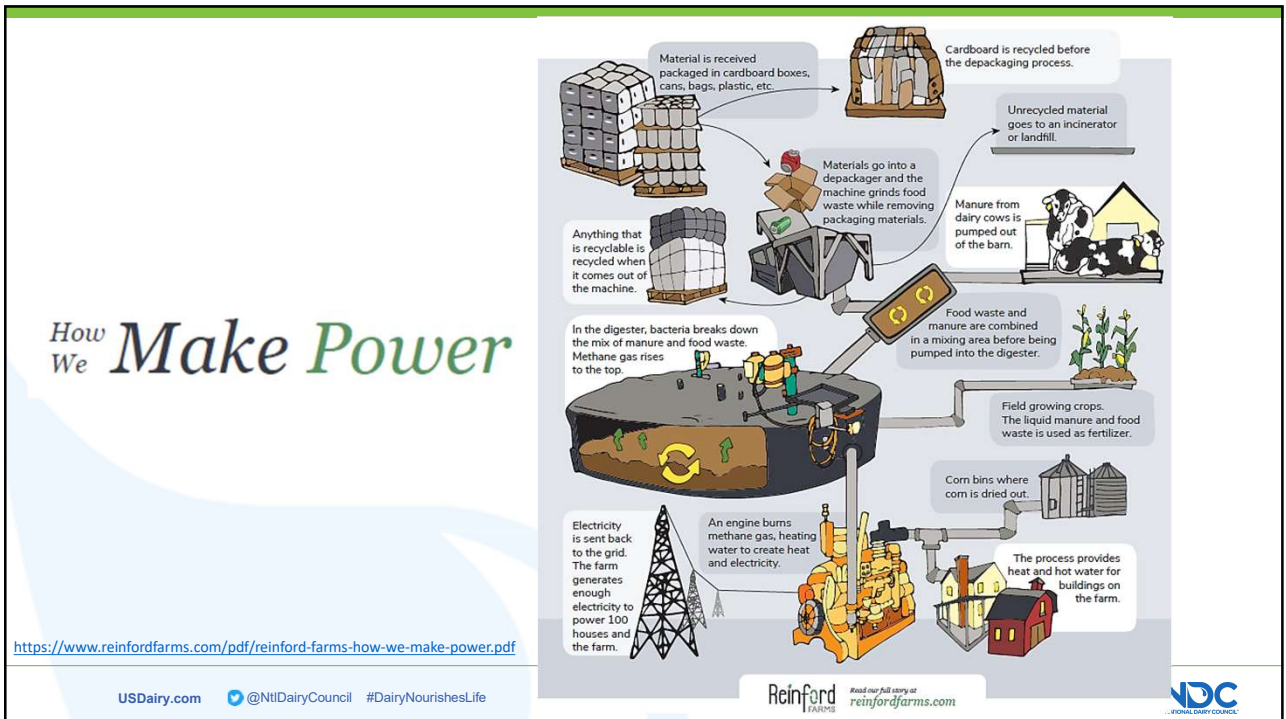
Photo courtesy of Land O Lakes: <https://features.landolakesinc.com/Reinford-Farms>

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# Poll Question


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Royal City, WA





**Manure Management**

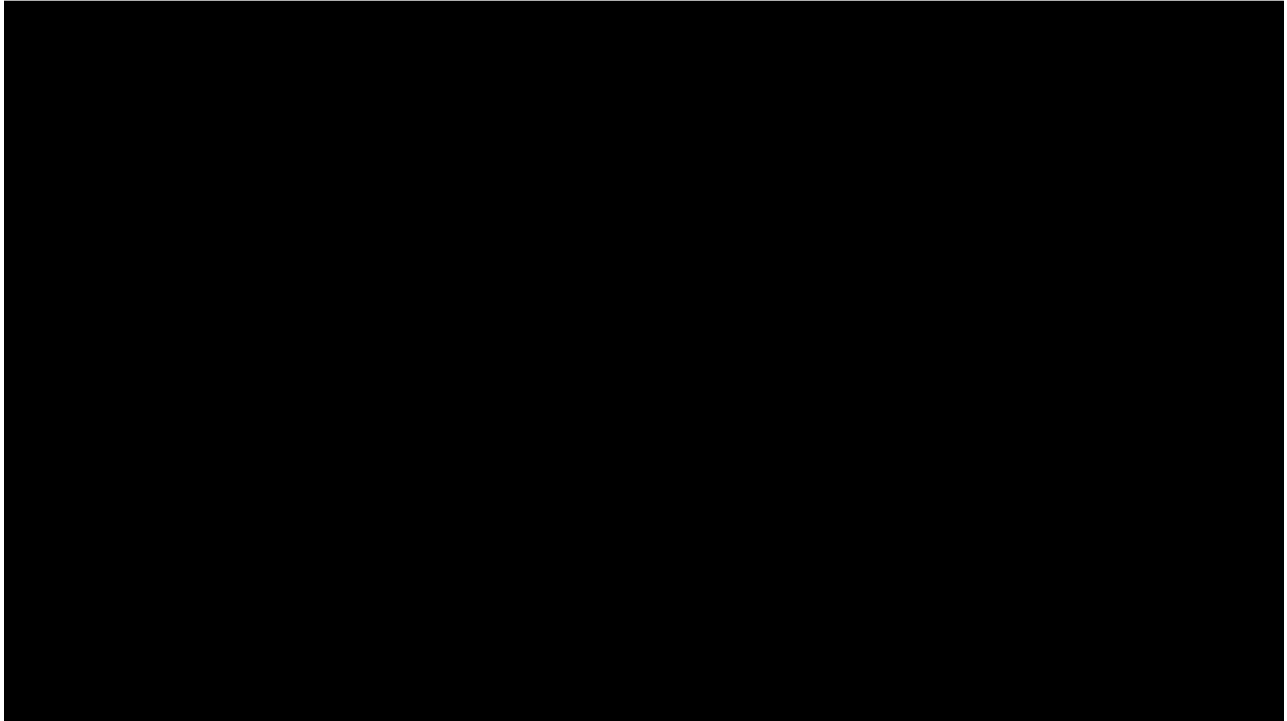
**Water Stewardship**

**Nutrient Management for Soil**

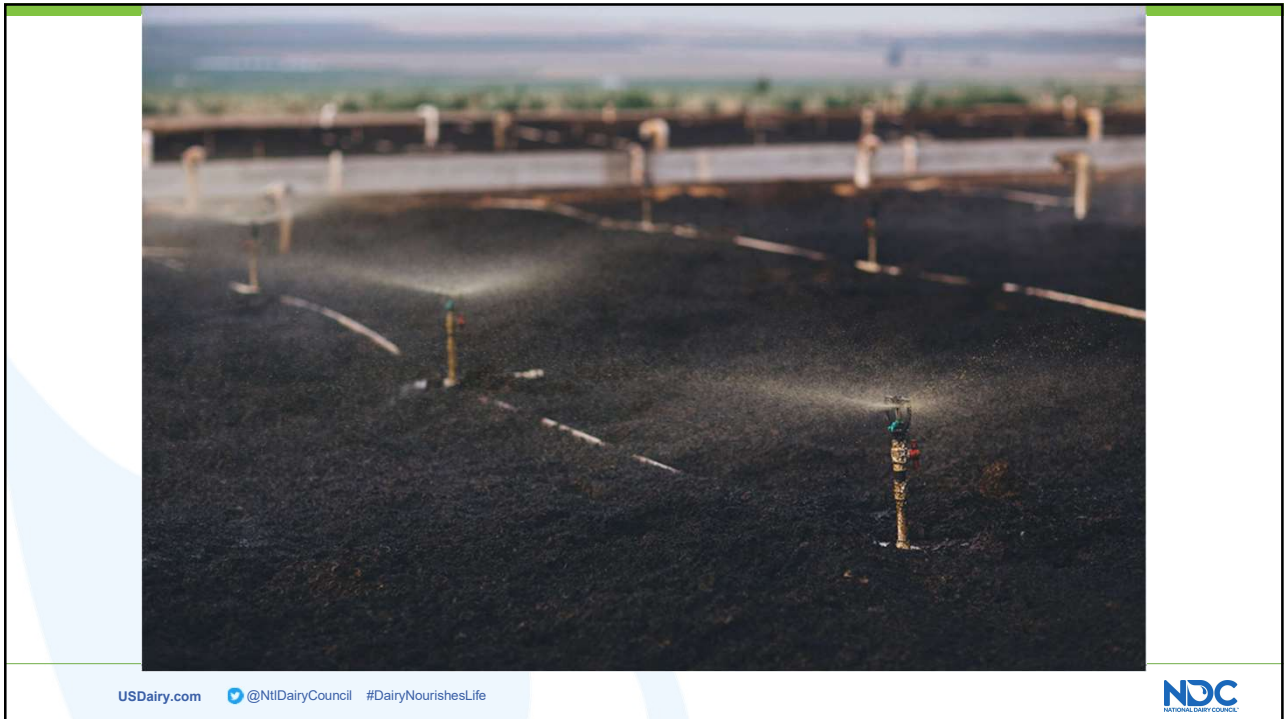
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*Jer-Lindy Farms.*



Brooten, MN





**Cow Care & Efficiency**

**On-farm Energy Efficiency**

**Food Waste Reduction**

**Water Stewardship**

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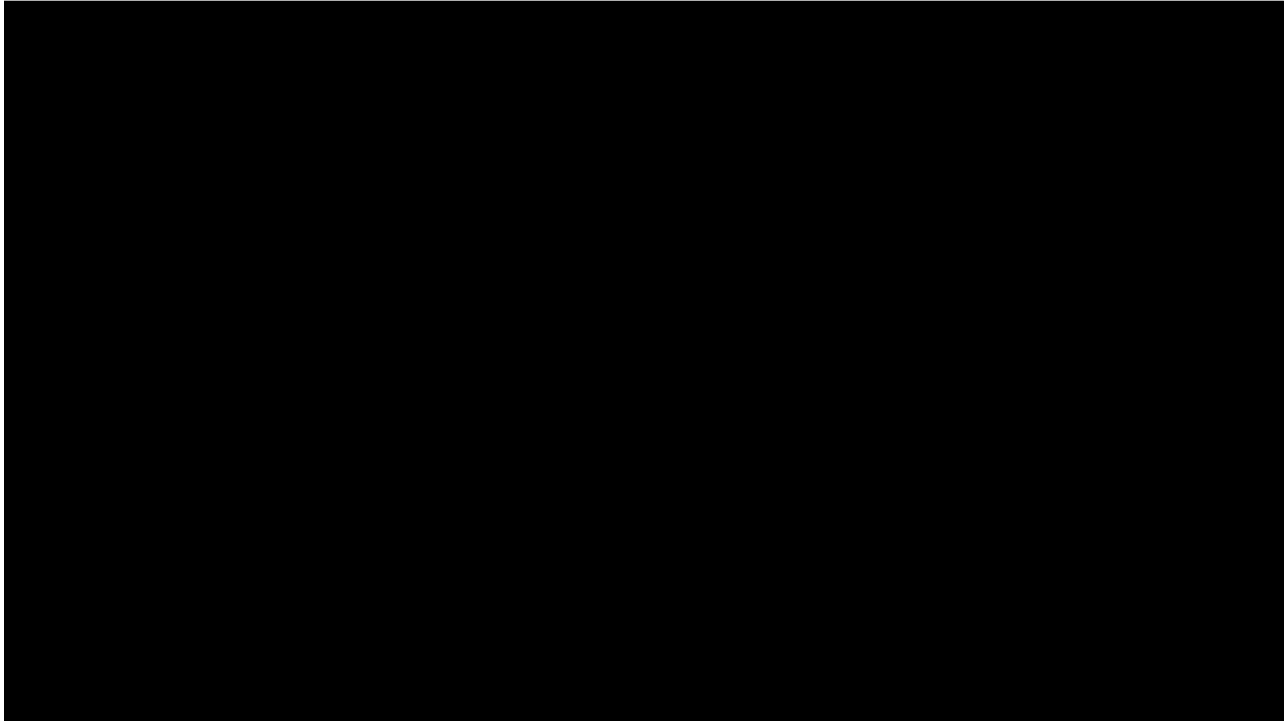
**Leprino Foods**  
Greeley, CO

**Water stewardship**      **Renewable energy use**

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The slide features the Leprino Foods logo (an orange stylized 'LF' above the text 'Leprino Foods') and a green square with a white dot and the text 'Greeley, CO'. To the right is a photograph of industrial machinery, likely part of a cheese processing plant. Below the photo are two blue text boxes: 'Water stewardship' and 'Renewable energy use'. At the bottom left are social media links: 'USDairy.com @NatlDairyCouncil #DairyNourishesLife'. At the bottom right is the 'NDC NATIONAL DAIRY COUNCIL' logo.

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**Host of Resources on USDairy.com**

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**Contact Your Local Dairy Council to Coordinate a Farm Tour**

<https://www.usdairy.com/for-farmers/local-checkoff>

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# Sustainable Food Systems Resources

### Primer

**Primer on Sustainable Food Systems for RDNs and NDTRs**

**Building a Food Systems Foundation (40 minutes)**

Intro & Module 1: Why care about sustainable food systems? (10 min.)

Module 2: A food systems tour (20 min.)

Module 3: A conceptual framework (10 min.)

**Unpacking Sustainability (40 minutes)**

Module 4: Sustainable, resilient, and healthy food and water systems (20 min.)

Module 5: Exploring the multiple domains of sustainable food systems (20 min.)

**Adding Tools To the Toolkit (40 minutes)**

Module 6: Understanding complexity in food systems (20 min.)

Module 7: Strategies for nutrition professionals to create food systems change (20 min.)


### Curriculum for Students and Interns

eatright Academy of Nutrition and Dietetics Foundation


**Implementation Guide**

*for the Sustainable, Resilient, and Healthy Food and Water Systems (SFS) Curriculum for Dietetics Programs*

[www.eatrightfoundation.org/SFS](http://www.eatrightfoundation.org/SFS)




### Dietetics Program Directory



<https://eatrightfoundation.org/why-it-matters/public-education/future-of-food/>

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## More Great Resources on Social Media



**New Mexico Milkmaid**  
Environmental Scientist, Dairy Farmer

- IG: @NewMexicoMilkMaid
- T: @NewMexicoMilkMaid
- F: New Mexico Milk Maid



**Sara Place, PhD**  
Animal Scientist

- T: @drsplace



**Farmers Assuring Responsible Management**  
National Dairy Farm Program

- IG: @farmprogram
- T: FARMPProgram
- F: National Dairy Farm Program



**Frank Mitloehner, PhD**  
US Davis Professor & Air Quality Specialist

- T: @GHGGuru



**Katie Dotterer-Pyle**  
Maryland dairy farmer

- IG: @cowcomfortindairy
- T: @CowComfortInn
- F: Cow Comfort Inn Dairy



**Abbey Copenhaver, MS, RD, CDN**  
Registered Dietitian and Dairy farmer

- T: dairyfarmerRD
- IG: dairyfarmerRD

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For more, visit: <http://donschindler.com>



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# Questions?

- Please enter your questions into the Q&A window.
- Continuing education certificates are available upon completion of the survey
- The full webinar recording will be available next week on USDairy.com



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**You Can be a Change Agent at the Local Level**

Whether you work with individual patients or clients, customers or communities, companies or organizations,

**YOU CAN** be a catalyst for positive, sustainable change.

**Resources at USDairy.com**

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