CDR Overview/Updates

Professor John Lucey
Wisconsin Center for Dairy Research

Center for Dairy Research “Solution Based Research Backed by Experience, Passion and Tradition”
CDR Overview

• CDR has 37 staff; CDR is a separate unit and works with multiple departments on campus

• We collaborate with:
  – Department of Food Science
    • Professors Rankin, Steele, Etzel, Damodaran, etc
  – Food Research Institute
    • Kathy Glass
  – Department of Dairy Science
    • Professor Pam Ruegg
  – Biological Systems Engineering
    • Professor Gunasekaran
**CDR Organizational Structure**

**Funders**
- WMMB
- DMI
- Industry Team members

**CDR Director**
- Assistant Director
- Senior Management Team
- Administrator
- Program Coordinators
- Staff

**Dean of College of Ag and Life Sciences (CALS)**

**Annual contracts with UW for programs at CDR**

**Appointed by/ reports to**

**Informal advisory function; key clients for CDR programs**
CDR Industry Team Members

Ex-Officio
CENTER FOR DAIRY RESEARCH

PROCESSING
- RESEARCH
- TRAINING
- OUTREACH
- TURBO

CHEESE

INGREDIENTS & FUNCTIONALITY

QUALITY & MASTER CHEESEMAKER

CULTURED PRODUCTS & BEVERAGES

INNOVATION & SOLUTIONS
CDR Programs

• Cheese
  – Technical assistance (trouble-shooting)
  – Product development
  – Product functionality (melting, shredding)
  – Utilizing new ingredients
  – Research
CDR Programs

**Dairy Ingredients, Cultured Products, and Beverages**

– Continue to
  
  • develop new uses for permeate as a sodium replacer
  • work with companies on new product development – beverages, yogurts, etc.
  • work with groups like USDEC as it relates to exports of Wisconsin products
CDR Programs

• **Quality/Safety**
  – Food Safety Modernization Act
    – preventing rather than responding
  – Perform Wisconsin Dairy Plant Food Safety Audits for Wisconsin plants
  – Wisconsin Master Cheesemaker program® coordination
  – Problem – solve microbiological issues for Wisconsin plants
CDR Programs

• Processing
  – Technical support
    • Fractionation
    • Concentration or drying of milk
    • Whey and whey proteins
    • Acid whey utilization
    • Processing equipment (including development of unique processing equipment)
  – Technical information
    • Dust fires handbook
Analytical Capabilities (1)

MELT –
- Rheology
- Sensory
- Pizza
- Melt test

TEXTURE –
- Texture Analyzer
- Sensory
- Rheology
FLAVOR RIPENING

- GC-MS
- Grading Experts
- Sensory
- Electrophoresis
- Proteolysis
- HPLC

Analytical Capabilities (2)
- Functionality
- Chemical/Physical Properties

OTHER

- Microscopy
- Calcium Equilibrium
In 2014, CDR worked with:
- 110+ dairy companies
- 40 companies that buy/utilize dairy products
- 20 industry suppliers
- 30 national and international organizations and regulatory agencies that support cheese/dairy companies

Cheese Industry Expo/Conference (nation’s largest):
- Co-host this event annually with the Wisconsin Cheesemakers Association
- # of attendees > 2800 (2014)

Technical Communications:
- Dairy Pipeline: over 2000 subscribers
- Dried Dairy Ingredients handbook:
- +1,100 copies distributed
Work with USDEC to Attend/Host Foreign Trade Missions
WDATCP Chinese Buyers Mission

Just a few of the Wisconsin companies represented today at the Chinese Buyers Mission managed by the Wisconsin International Trade Team.

"It's all about making relationships," said participant George Conway of Muldoon Dairy about the business of exporting.

Learn more about growing your markets and make plans to attend upcoming events at http://datcp.wi.gov/Business/Exports/index.aspx.

Almost too pretty to eat. Almost.

The Wisconsin Cheese Makers Association is hosting a cheese tasting for participants in the Chinese Buyers Mission. Wisconsin Cheese (5 photos)

Courtesy of the WDATCP Facebook page
Published Monographs

Technical Report:
Coprodusts of Milk and Whey Processing

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Guest Columns (with Bekah McBride)

Dairy Foods
- **Update on sodium reduction** (January 2014)
- **Food processors look for natural cheese** (April 2014)
- **The case for fortifying cheese** (August 2014)
- **How to avoid crystals in cheese** (October 2014)

Cheese Market News
- **The Unique Benefits of Dairy** (December 2013)
- **Changing paradigm in the role of universities** (April 2014)
- **Aspects of most cheese types trace back through multiple countries** (June 2014)
- **New Babcock Hall will host space for cheese ripening exploration** (August 2014)
- **Growth opportunities for the U.S. dairy industry** (Nov 2014)
Partnerships between producers, processors, universities

John Lucey for Progressive Dairyman

Strong partnerships that grow demand for dairy have always been a driving force behind the success of the industry. While producer and manufacturer efforts move the industry forward, support groups such as the Wisconsin Milk Marketing Board, Dairy Management Inc. and various dairy research centers are also crucial to industry success. Over the years, these relationships have provided a strong base for the growth of the multi-billion dollar dairy industry we have today. While the relationship between producers and manufacturers/processors is often the focus of discussion, it’s important to understand the role researchers and educators also play in supporting the dairy industry.

CDR has developed programs that support cheese, cultured products, beverages, dairy ingredients, processing and safety/quality efforts within the industry. Overall, CDR and similar dairy centers are there as a resource (on-call) for the dairy industry. The nearly 40 staff at CDR are focused on building demand for milk and dairy products through research, industry support and education. This focus includes training and new product development efforts. In particular, CDR has developed programs that support cheese, cultured products, beverages, dairy ingredients, processing and safety/quality efforts within the industry.

Additionally, these efforts include research to assist the growing global demand for dairy. Dairy exports have certainly grown over the last few years in fact, according to the United States Dairy Export Council (USDEC), U.S. exports exceeded $6 billion last year and have averaged a 21 percent growth each year for the past 10 years. The export market can be difficult to enter, however, as other countries require specific and unique products and specifications to meet their consumer requirements. That’s why everything from quality/safety and cheese grading to the manufacturing of novel dairy ingredients and basic cheese-making technology. These courses are taught by CDR staff, scientists with many combined years of academic and industry experience.

CDR has also recently partnered with the Wisconsin Cheese Makers Association and the Wisconsin Department of Agriculture and Consumer Protection to create a new nine-week (primarily online) training program for dairy plant managers.

Not all whey is created equal

As technology improves to capture even more unique whey proteins, it will become a bigger driver in determining milk checks.

by Dean Sommer and Bekah Gillespie

Over the past few decades, whey has gone from a waste product to an important source of revenue for the dairy industry. In fact, the United States Dairy Export Council (USDEC) estimates that one quarter of the world’s whey, 1.1 million metric tons per year, comes from the U.S.

The authors are a cheese and food technologist and communications specialist, respectively, at the Center for Dairy Research at the University of Wisconsin-Madison.
Build a Better Cheese Webinar
June 19, 2014
John Lucey
Over 500 attendees

Center for Dairy Research “Solution Based Research Backed by Experience, Passion and Tradition”
CDR Impact: Award Winning Cheeses and Cheesemakers

- 22+ short courses per year
- ~1,000+ industry attendees/year
- 17+ individual company trainings
Domino’s Pizza reported same-store sales in the USA up 7.7% YoY during 3Q14
Visit by U.S. Sen. Baldwin and UW Chancellor Blank to CDR
Ray Michels Recognized by UW and CALS
Funded by Dairy Farmers through the Wisconsin Milk Marketing Board & Dairy Research Institute

Wisconsin Center for Dairy Research

www.cdr.wisc.edu