

Panoramic review of a memorable year

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CHANGE

Dairy management is transforming at a record pace, and dairy herd business models are constantly challenged. Supporting industry partners face similar crossroads.

What is driving the changing environment?

- Shifts in consumer behavior
- Misalignment between supply and demand for dairy
- Innovation across the entire dairy chain

In this context, CDCB is constantly challenged to

- Improve communication
- Revalidate research and development priorities
- Extend the data flow process to include novel types of information
- Innovate to continue serving as the primary, pre-competitive source of genomics for dairy farmers

CDCB Industry Meeting

with Western Dairy Management Conference, Reno, Nev.

FEBRUARY 2019

CDCB INDUSTRY MEETING

Q1. If the industry does not move to big data analytics in a collaborative manner, what would be the alternative(s)?

- Data silos
- Proprietary data
- Data integrity and quality
- Duplication and inefficiencies
- National goals
- USDA / land-grant universities
- Leverage with consumers, activists, supply chain and government

Q2. If there is a collaborative transition to big data for dairy, would producers be willing to contribute data into a national database?

- Software integration
 - Standard definitions
 - Easy-to-use software
- Transparency on data usage
- Confidentiality and security
- Research focused on producers needs
- Standardization → data quality
- No additional costs → equitably distributed

Q3. In a precompetitive database incorporating more big data, what is the role of CDCB and its members?

- CDCB's proactive and transparent role:
 - foster data expansion in a precompetitive manner
 - facilitate actions that add value for data providers
 - represent dairy farmers to collaborate with other parties
 - enhance data quality, standardization and anonymity
 - focus on solutions that already exist
 - ensure that data is shared across the industry

Q4. What are the necessary steps to advance the use of big data in dairy genetics and herd management?

- Inclusive & buy-in approach
- Producer-to-consumer needs
- Data ownership and confidentiality
- Transparent business model
- Data quality
- Value communication
- Attract large producers (>10,000 cows) and others not currently engaged
- Leverage international data expertise
- Engage big data partners

Data contribution must yield “value back to the dairy.”

- Direct payment or reduction in cost of services
- Short-term benefits
- Cow management level
- Timely outcomes
- Easy to interpret
- Accurate information → better decisions → higher profitability

Opportunities for CDCB to expand its services and/or incentivize data contribution:

- Benchmark information as compensation for data
- In addition to genomic evaluations
 - Financial information
 - Benchmark comparisons
 - Leverage against anti-dairy groups
 - Actively address consumer concerns
 - Market differentiation
- Monetize anonymized data

“**THERE
WAS SIGNIFICANT
ALIGNMENT**

around the desire for pre-competitive collaborative databases, and there was agreement that CDCB – as an objective third-party – has a leadership role in this arena.”

WHAT HAS CDCB BEEN DOING LATELY

Significant enhancements made to the evaluation system include:

- Increase from 60K to 80K SNP set in genomic predictions,
 - new bovine reference genome assembly, ARS-UCD1
- Inclusion of crossbred animals in genomic evaluations
- Early First Calving (EFC)
- Inclusion of global data on the clinical mastitis resistance genomic evaluations (Interbull)
- Thorough review of fertility evaluations

Policies & Procedures

- Simplified fee structure
- Test run process
- Use of national cooperator database for SNP array validation and SNP information disclosure

Producers Advisory Committee

- **Lloyd Holterman**, Rosy-Lane Holsteins, Watertown, Wis
- **Kent Buttars**, Butter Dell Dairy, Lewiston, Utah
- **Patrick Crave**, Crave Brothers Dairy, Waterloo, Wis.
- **Brent Czech**, New Heights Dairy LLC, Rice, Minn.
- **Matt Hendel**, Hendel Farms, Caledonia, Minn.

Development of new data pipelines

- CDCB and Foundation for Food and Agriculture Research (FFAR) have each committed to invest \$1 million to fund research and measurement of feed intake and sensor data at four universities and USDA-AGIL.
 - **CDCB expects to launch genomic evaluations for feed efficiency in Holsteins in 2020.**
- In the Jersey breed, work with CDCB members has resulted in a dramatic increase in health data into the national cooperator database, allowing the development of disease resistance genomic predictions for Jerseys.
 - **Test run in process.**

WHAT'S NEXT?

Updates, enhancements, new solutions

- Calving ease evaluations (Stefano Biffani @ NCSU)
- Sire conception rate for Angus bulls
- Discovering ancestors and connecting relatives in large genomic databases (Nani et al, 2019)



If reality presents itself as a constant change,
it's most important to stay focused on the
ultimate purpose of CDCB and genetic
improvement – empowering dairy producers
to deliver the greatest source of nutrients
available: MILK



Thank you!
www.uscdcb.com