

Field Service Advisory Committee (FSAC) Meeting

March 6, 2018

Embassy Suites Riverwalk – San Antonio, TX

Attendees

Anita Quesenberry, United DHIA & Chair, FSAC
Bill VerBoort, AgriTech Analytics
Erin Berger, AgSource Cooperative Services
Angie Coburn, AgSource Cooperative Services
Glenn Schmahl, Eastern Wisconsin DHIC
Lucia Aguiar, Aguiar Milk Testing Inc.
Cathy Myers, Amelcor
Steven Smith, Amelcor
Tom Blevins, Arizona DHIA
Neil Petreny, CanWest DHI
Jeff Parker, CanWest DHI
Terry Hopper, Dairy Lab Services
Lexie Parker, Dairy Lab Services
George Cudoc, Dairy One Cooperative, Inc. & Chair, QCS Advisory Committee
John Tauzel, Dairy One Cooperative, Inc.
Carol Benway, Dairy One Cooperative, Inc.
Tammie Guyer, Dairy Records Management Systems
John Clay, Dairy Records Management Systems
Greg Palas, Dairy Records Management Systems
Brian Winters, DHI Cooperative Inc.
Julee O'Reilly, DHI Cooperative Inc.
Alfred Duran, DHIA West
John Rhoads, Eastern Lab Services
Michael Gallenberger, Gallenberger Dairy Records
Dennis Drudik, Heart of America DHIA
Susan Lee, Idaho DHIA
Elizabeth Farrow, Indiana State Dairy Association
Brett Denny, Lancaster DHIA
David Bigelow, Sr., Lancaster DHIA
Mark Witherspoon, Mid-South Dairy Records
Bruce Dokkebakken, Minnesota DHIA
Steven Sievert, National DHIA/QCS
Jay Mattison, National DHIA/QCS
Doug Moyer, NorthStar Cooperative Services
Kassy Fry, NorthStar Cooperative Services
Gary Holterman, NorthStar Cooperative Services
Kevin Haase, NorthStar Cooperative Services
Chris Tucker, Rocky Mountain DHIA
Dennis Edlund, San Joaquin DHIA
Tony Nunes, Tulare DHIA
Daniel Lefebvre, Valacta

Invited Guests

John Cole, USDA-ARS-AGIL
João Dürr, Council on Dairy Cattle Breeding
Uffe Lauritsen, RYK, Denmark
David Saunier, FCEL, France
Juan Carlos Carnero, SAYCA, Spain
Jay Weiker, NAAB
Martin Burke, ICAR
Roman Kwasiborski, FOSS North America

The 2018 FSAC meeting called to order at 8:32 a.m. by Anita Quesenberry, United DHIA and Chair. Quesenberry asked for introductions of attendees and invited guests.

The agenda was reviewed and offered for additions. There were no additional topics brought forth for discussion.

Steven Sievert, QCS, distributed the minutes from the March 7, 2017 FSAC meeting as part of the FSAC meeting materials. It was moved, seconded, and passed to approve the minutes as printed.

Steven Sievert was appointed as recording secretary for the 2018 FSAC meeting.

Steven Sievert, Quality Certification Services, presented the following:

1. Field Service Report (attached to the minutes). There were no proposed changes from QCS to the *Auditing Procedures for Field Services*.
2. Meter Center and Technician Report (attached to the minutes). There were no proposed changes from QCS to the *Auditing Procedures for Meter Centers and Technicians*.
3. Accurately Describing the Test Day (attached to the minutes).
4. Update on the QCS Proficiency Testing (PT) program (attached to the minutes).

Jeff Parker, Robot Specialist, CanWest DHI shared the CanWest DHI approach to service those dairy farms with AMS in Canada with a focus on training, personnel and equipment.

David Saunier, FCEL, France, and Juan Carlos Carnero, SAYCA, Spain, provided an overview of the Ori-Collector semi-universal AMS sampling shuttle to the attendees. A copy of the presentation is attached to the minutes.

Chair Anita Quesenberry called for proposed changes to the guidelines from the floor three times. There were no changes brought forth from the meeting attendees.

The meeting was recessed for lunch at 12:04 p.m.

The meeting was reconvened at 1:00 p.m.

Steven Sievert, who also serves as Chair of the ICAR Subcommittee for Recording and Sampling Devices, provided an update of both approved and non-approved ICAR recording devices and associated samplers. Comments specific to ICAR-approved combinations of AMS and sampling shuttles along with device-specific issues were highlights of the presentation. A copy of the presentation is attached to the minutes.

Jay Mattison, CEO, National DHIA/Quality Certification Services provided a frontline update on critical issues to the DHI industry. Mattison provided comments on discussions surrounding Data Access and Use, the USAHA resolution on animal identification, and a business operations update. A copy of the presentation is attached to the minutes.

João Dürr, CEO, Council on Dairy Cattle Breeding provided an update on CDCB activities, goals, and staffing. A copy of the presentation is attached to the minutes.

The FSAC welcomed Dr. Daniel Lefebvre, Valacta to share perspectives on innovation and adding value to recording services as part of the strategic plan at Valacta in Quebec and the Maritimes. A copy of the presentation is attached to the minutes.

John Rhoads, Eastern Lab Services provided an update on the activities of the ICAR Milk Analysis Subcommittee (MASC) and initial plans for the 2018 Laboratory Advisory Meeting (LAC) meeting. Rhoads serves as LAC Chair and is a member of the ICAR MASC.

The FSAC meeting adjourned at 4:23 p.m.

Respectfully recorded,

Steven Sievert
QC Program Manager/Field Service and Meter Center Auditor
Quality Certification Services Inc.

Field Service Advisory Committee (FSAC) Meeting

Tuesday, March 6, 2018
Embassy Suites Hotel
San Antonio, TX

Meeting Room – Majestic A
8:30 a.m. – 4:30 p.m.

The FSAC Meeting and Lunch is for Registered Attendees Only

Closed Session from 8:30 to 10:00 a.m. to only Field Service Managers and DPRC Representatives – Guests Welcome after 10:30 a.m.

- 8:30 a.m. Call to Order – *Anita Quesenberry (United DHIA), Chair, FSAC*
- Introductions
- Agenda Review and Additions
- Approval of Minutes from 2017 FSAC Meeting (attached)
- 8:45 a.m. QCS Field Service Program Update – *Steven Sievert, NDHIA/QCS*
- Coding of Data
- Herd Characteristics
 - Supervision Codes
 - Field Service, Meter Center and Laboratory Codes
 - QC Codes
 - Frequency Codes
- QCS Proficiency Test Program Update
- 9:15 a.m. QCS Meter Center & Technician Program Update – *Steven Sievert*
- 9:30 a.m. Noncompliance – *Steven Sievert & Jay Mattison, NDHIA/QCS*
- 10:00 a.m. Health Break
- 10:30 a.m. Ori-Collector Field Setup and Use – *Jeff Parker, CanWest DHI*
- 11:15 a.m. Ori-Collector – *Juan Carlos Carnero, SAYCA & David Saunier, FCEL*
- 12:00-1:00 p.m. Lunch

- 12:00-1:00 p.m. Lunch
- 1:00 p.m. Recording and Sampling Devices Update – *Steven Sievert*
- 1:30 p.m. ICAR Sensor Devices Task Force Update – *Steven Sievert*
- 1:45 p.m. Keeping Yon on the Frontline – *Jay Mattison*
- Release and Use of Data
 - Animal ID Changes
 - Business Operations Update
- 2:30 p.m. Health Break
- 3:00 p.m. CDCB Management Report – *Joao Durr, CEO, CDCB*
- 3:30 p.m. DHI & Dairy Survey – *Jason Lombard, NAHMS*
- 4:00 p.m. ICAR Milk Analysis Subcommittee/LAC Update – *John Rhoads, ELS*
- 4:20 p.m. Wrap-Up & Adjourn

Field Service Advisory Committee (FSAC) Meeting

March 7, 2017

Hilton Desoto Savannah, Savannah, GA

Attendees

Terry Hopper, Dairy Lab Services & Chair, FSAC
Bill VerBoort, AgriTech Analytics
Tom DeMuth, AgSource Cooperative Services
Angie Coburn, AgSource Cooperative Services
Glenn Schmahl, Eastern Wisconsin DHIC
Tom Blevins, Arizona DHIA
Neil Petreny, CanWest DHI
Emily Howard, Dairy Lab Services
George Cudoc, Dairy One Cooperative, Inc. & Chair, QCS Advisory Committee
Jamie Zimmerman, Dairy One Cooperative, Inc.
Philip Dukas, Dairy Records Management Systems
Erinn Evangelista, Dairy Records Management Systems
Tammie Guyer, Dairy Records Management Systems
John Clay, Dairy Records Management Systems
Greg Palas, Dairy Records Management Systems
Brian Winters, DHI Cooperative Inc.
Alfred Duran, DHIA West
Cathy Myers, DHI-Provo
Steven Smith, DHI-Provo
John Rhoads, Eastern Lab Services
Dennis Drudik, Heart of America DHIA
Susan Lee, Idaho DHIA
Mark Williams, Indiana State Dairy Association
Emilio Chavez, Sr., Integrated Milk Testing Services
Lourdes Chavez, Integrated Milk Testing Services
Jere High, Lancaster DHIA
David Bigelow, Sr., Lancaster DHIA
Mark Witherspoon, Mid-South Dairy Records
Bruce Dokkebakken, Minnesota DHIA
Steven Sievert, National DHIA/QCS
Jay Mattison, National DHIA/QCS
Virginia Sheridan, NorthStar Cooperative Services
Kassy Fry, NorthStar Cooperative Services
Gary Holterman, NorthStar Cooperative Services
Mark Eisenga, NorthStar Cooperative Services
Kevin Haase, NorthStar Cooperative Services
Dennis Edlund, San Joaquin DHIA
Dennis Marsh, Texas DHIA
Tony Nunes, Tulare DHIA
Anita Quesenberry, United DHIA
Daniel Lefebvre, Valacta
Dale McKernan, Washington State DHIA

Invited Guests

John Cole, USDA-ARS-AGIL
Ezequiel Nicolazzi, Council on Dairy Cattle Breeding
Duane Norman, Council on Dairy Cattle Breeding
Kristen Gaddis, Council on Dairy Cattle Breeding
Uffe Lauritsen, RYK, Denmark
Jakob Christensen, Analytic Trust, Denmark
Jorgen Katholm, DNA Diagnostic, Denmark

Daniel Schwarz, FOSS, Denmark
Ben Smink, Lely North America

The 2017 FSAC meeting called to order at 8:34 a.m. by Terry Hopper, Chair. Terry Hopper asked for introductions of attendees and invited guests.

The agenda was reviewed and offered for additions. Terry Hopper announced that he would like to step down as FSAC Chair after eight years of service. Nominations and election of a new FSAC Chair was added to the agenda.

Steven Sievert, QCS, distributed the minutes from the March 8, 2016 FSAC meeting as part of the FSAC meeting materials. It was moved, seconded, and passed to approve the minutes as printed.

Steven Sievert was appointed as recording secretary for the 2017 FSAC meeting.

Steven Sievert, Quality Certification Services, presented the following:

1. Field Service Report (attached to the minutes).
2. Proposed change to Section 8 of the *Auditing Procedures for Field Services*. A copy of the proposed revision with highlighted changes was distributed to all attendees. The proposed changed separated calibration requirements for AMS (robotic) herds and herds with fixed, in-place electronic meters. The proposed changes passed on a voice vote and will be forwarded to the Audit Review Committee for action. The anticipated effective date will be January 1, 2018.
3. Meter Center and Technician Report (attached to the minutes). There were no proposed changes to the *Auditing Procedures for Meter Centers and Technicians*.

Steven Sievert, who also serves as Chair of the ICAR Subcommittee for Recording and Sampling Devices, provided an update of both approved and non-approved ICAR recording devices and associated samplers. Comments specific to ICAR-approved combinations of AMS and sampling shuttles along with device-specific issues were highlights of the presentation. A copy of the presentation is attached to the minutes.

Jakob Christensen of Analytic Trust from Denmark provided a presentation on the new QCS Samples Unknown website that is currently under development. The new SaaS web program will address challenges identified in the current program from an administrative level as well as a user level.

Terry Hopper opened the floor to nominations for FSAC Chair. Anita Quesenberry, United DHIA and Mark Williams, ISDA were nominated. Nominations were closed and voting will take place prior to the lunch break later in the meeting.

Steven Sievert presented Tom DeMuth, AgSource Cooperative with an award recognizing his leadership and contributions to NADMA, QCS, and the FSAC.

Jay Mattison, CEO, National DHIA/Quality Certification Services provided a frontline update on animal identification challenges facing DHI and the industry in general. Mattison reported on the International Group (IG) cooperative efforts related to development of a new integrated milk recording & sampling device and a universal sampling device. Mattison also updated the FSAC on the return of the CDCB capitalization funds planned for 2017. A copy of the presentation is attached to the minutes.

Ezequiel Nicolazzi, Technical Director, CDCB, provided an update on CDCB activities and staffing. A copy of the presentation is attached to the minutes.

The FSAC welcomed Dr. Jorgen Katholm from DNA Diagnostic to share developments in using PCR screening for assessing milk quality and milking management.

Terry Hopper called for the vote for FSAC Chair. Voting by paper ballot occurred, with one vote per field service affiliate present at the meeting. The vote was a tie.

The meeting was recessed for lunch.

The meeting was reconvened. Terry Hopper invited the two FSAC Chair candidates to address the meeting attendees. Terry Hopper then called for the vote for Chair by paper ballot. Mark Williams, ISDA was elected FSAC Chair.

Daniel Schwarz, Cattle Health Specialist with FOSS provided an update of Differential SCC Counting technology to be launched later in 2017. A copy of the presentation is attached to the minutes.

Cheryl Marti, M.S., Zoetis shared an update on the Clarifide Plus genomic test product from Zoetis. Marti requested that this presentation be held in a confidential manner due to possible publication in a peer-reviewed journal.

Susan Lee, Idaho DHIA and National DHIA Board Member, provided a report from the National DHIA Membership Task Force. The proposal allows for bylaws changes to include National DHIA membership from privately held field service organizations. The proposal also outlines classes of membership that include associate members and industry partners with specific membership benefits for each of these classes. The proposal has been approved by the National DHIA Board of Directors and will be offered for ratification by the delegate body at the 52nd National DHIA meeting. A copy of the presentation is attached to the minutes.

The FSAC welcomed Ben Smink, Lely North America to share updates on use of sampling shuttles for collection of milk samples. Smink indicated that the Lely Shuttle XY, currently used in Belgium and the Netherlands, is undergoing a design change and will be available in North America in 2018. A copy of the presentation is attached to the minutes.

Uffe Lauritsen, RYK, Denmark, provided an update on DHI operations in Denmark, highlighting changes in services offered by RYK to dairy producers. Lauritsen also highlighted challenges with using component data from AMS systems compared to component results from central milk laboratories.

The FSAC meeting adjourned at 4:24 p.m.

Respectfully recorded,

Steven Sievert
QC Program Manager/Field Service and Meter Center Auditor
Quality Certification Services Inc.

Field Service Update



Field Service Advisory Committee
March 6, 2018

Steven Sievert
Manager, Quality Certification Services Inc.
Technical Director, National DHIA
Chair, ICAR Subcommittee for Recording and Sampling Devices

General Housekeeping

- **Audit submission options**
 - QCS FTP site – each organization has a designated folder
 - Dropbox – contact QCS for instructions
 - Upload all files – Excel, PowerPoint, PDF, Access, Word, etc.
 - Two way street – QCS can upload reports, field training presentations, other supporting documentation

- **On-site audits continue to be more efficient**
 - **Presence of auditor elevates priority to complete audit**
 - **Higher percentage of on-time submissions**
 - Less follow-up materials and quicker turn around
 - Auditor can offer other support – technician or field manager training, local board meetings, milk meter dealer support, etc.

- **Common ‘occurrences’ with missing documentation**
 - **Computer theft, damage, or other issues**
 - **Lost forms/documents that were never filed or scanned**

Approved Change in UOP

- **Uniform Data Collection Procedures**
 - **Item 8 – Definition of Cows In Milk**
 - **Change proposed and recommended by DRPC Advisory Committee**
 - **Approved by the National DHIA Board on June 28, 2017**
 - **PDF of UOP on National DHIA and QCS websites**
 - **It is field service responsibility to provide UOP to all herds**

NATIONAL DAIRY HERD IMPROVEMENT PROGRAM UNIFORM OPERATING PROCEDURES

Effective June 28, 2017

8. COWS IN MILK

All cows in milk, when possible, should have milk weighed and/or sampled on the test day. Data will be used for record calculation for cows after the fourth day, counting the day of calving as the first day. The record begins on the calving date.

Observations – Member/Service Agreements

- Required for all herds on all test plans – even 40s and 70s
- **Good business practice, even for non-processed herds**
 - Herds may convert from non-processed to processed
 - Record of herd code assignment
 - Access and use of data
- **About 5% of new or restarted herds missing agreement during audit**
- **Common Issues**
 - **Never obtained agreement for new herd that subsequently quit**
 - **Missing signature(s)**
 - **Herd restarts DHI programs but member agreement is missing**
 - **Affiliate forgot about transferred herds**
- **New educational program in coming months**

Initial & Follow-Up Training of Field Technicians

- Most field service affiliates meet the minimum
- Training documentation is dated for many organizations
 - **No updates to training programs for over a decade**
 - **Failure to complete follow-up training as outlined in guidelines**
 - Need to provide the tools for new field technicians to succeed in their role
 - QCS recognizes variances between affiliates – just document what training you provided
- What support is needed?
 - On-line training modules?
 - Customizable/fillable templates?
 - Other?

Continuing Education for Managers

- **Certain field service affiliate managers do not attend any organized training meetings**
- **Added *Guidelines for Continuing Education of Field Service Managers* - effective January 1, 2016**
 - **4 of 24 affiliates failed to meet this requirement in 2016**
 - **2 of 23 affiliates failed to meet this requirement in 2017**
 - **Certification status is conditional or provisional based on other compliance issues associated with the audit**
- **These issues create increased challenges and increase costs of support**
 - **Not aware of industry changes (UOP, test plans, calibration procedures)**
 - **Higher non-compliance issues during field service and meter center audits**

Portable Meter Calibration Performance in 2017

** Meters are required to be calibrated at least once every 365 days*

** There were 2 field service providers with 100% of meters with calibration intervals <365d in 2017*

	Best Service Provider	Poorest Service Provider	2016 Weighted Mean	2017 Weighted Mean
Not Calibrated	0%	38.1%	0.8%	1.1%
% <365 days	100%*	0%	52.7%	54.1%
% between 365-425 days	0%	0%	35.0%	36.7%
>425 days	0%	100%	12.3%	8.1%

Electronic Meter Reporting

- **Don't forget to update make, model and number of meters as parlors expand or are remodeled**

- **Common incorrect statements regarding electronic meters**
 - **Set it and forget it attitude regarding meter calibration**
 - **A 10-day average takes care of all individual cow errors**
 - **Parlor report is enough – routine maintenance is not needed or follow-up on deviating meters not required**

- **All test plans are included – even 40's and 70's – just because a herd is on a commercial or unsupervised test plan does not waive electronic meter reporting and calibration requirements**

Calibration of Electronic Meters

- Guidelines require that herds using in-place electronic meters need to have them calibrated at least once every 12 months
- Guidelines offer options for compliance
 - Water Test Calibration
 - Parlor Report/EMMR/Manufacturer's Software Report demonstrating that meters are accurately weighing milk
 - Other procedure approved by the auditor
- **Confusion over what is acceptable for AMS (robotic) herds**
- **New electronic calibration procedures from manufacturers that are not covered in the current guidelines**
- **This is a growing area for support, compliance and service**

Approved Change to Guidelines – Section 8

Auditing of AMS and Electronic Meter Calibration Checks

1. **Approved by FSAC and ARC in 2017 – effective January 1, 2018**
2. **Separate requirements for AMS (Robotic) and In-Place EMM**
3. **New “Calibration Check Documentation for AMS” section**
 - **ICAR-approved routine calibration**
 - **Comparison of measured milk yield and reported milk shipped**
4. **Amended ‘Calibration Check Documentation for Electronic Meters’**
 - **NO CHANGE: ICAR-approved routine water test calibration**
 - **NEW: manufacturer’s computerized calibration procedure**
 - **NO CHANGE: Parlor performance report**
 - **NO CHANGE: Alternative procedure approved by auditor**

Annual AMS Calibration Report



Minnesota Dairy Herd Improvement Association
307 Brighton Avenue South • Buffalo, MN 55313
(763) 682-1091 • Fax (763) 682-1117 • www.mndhia.org

IN-PLACE ELECTRONIC CALIBRATION REPORT—ROBOTIC SYSTEM

According to the National Dairy Herd Improvement Program, Uniform Operating Procedures, producer-owned electronic meters used for DHIA testing must be checked for accuracy by a qualified technician with the same standards used for DHIA meters if the producer wants information to go to USDA. DHIA information is used by USDA for Sire proofs and other genetic evaluations and is required if the dairy is on a young sire program.

- Calibration reports are required on an annual basis with a maximum interval of 14 months.
- Meters must be within 5% of the Expected reading.

Herd Owner _____ Herd Code _____ Date _____
Farm Name _____ Field Rep Name _____
Address _____ Field Rep Number (We will add) _____
City _____ State _____ Zip _____
Robotic Make (Ex Lely) _____ Model (Ex A3) _____
Install Date (if new install) _____ Number of Units _____

Robot Serial # _____
This Robotic Meter has been calibrated as per dealer instructions and is within certified tolerance: _____
Robot Serial # _____
This Robotic Meter has been calibrated as per dealer instructions and is within certified tolerance: _____
Robot Serial # _____
This Robotic Meter has been calibrated as per dealer instructions and is within certified tolerance: _____
Robot Serial # _____
This Robotic Meter has been calibrated as per dealer instructions and is within certified tolerance: _____
Robot Serial # _____
This Robotic Meter has been calibrated as per dealer instructions and is within certified tolerance: _____
Robot Serial # _____
This Robotic Meter has been calibrated as per dealer instructions and is within certified tolerance: _____

Signature of person performing test _____
Position _____
Dealership Name _____ City _____
Dealership State _____ Phone _____
Notes or Comments _____

PLEASE MAIL TO: MINNESOTA DHIA, 307 BRIGHTON AVE S, BUFFALO MN 55313
or FAX TO MINNESOTA DHIA: (763) 682-1117 attention Gabe.



ARENSEN FARM SALES & SERVICE INC

6875 Albers Road, Albers, IL 62215
618-248-5005 618-248-5002 fax

September 10, 2014

To Whom It May Concern:

The Lely A4 Robots at Arentsen Dairy, Serial # 5000613 and Serial # 5000614 were calibrated on September 10, 2014 by our Lely Technician, Patrick Bach.

Sincerely,

Gary Arentsen
President
Arentsen Farm Sales & Service Inc



Quality
Certification
Services Inc.

Alternative to Calibration Report for AMS Herds

brezzy hill



Robotic Meter Test Day Bulk Tank Differences

14-May 2014

Collection Date	Number of Robots	Collection Time	Actual tank	Tank Volumn	Milk Weight into Tank robot #1	Milk Weight into Tank robot #2	Milk Weight into Tank robot #3	Milk Weight into Tank robot #4	Sum of Daily Milk Weights Measured by the Milk Meter	Deviation %
05/04/14	2			3305	1428	1903			3331	100.79
05/05/14	2			3549	1701	2052			3753	105.75
05/06/14	2			3549	1872	2084			3956	111.47
05/07/14	2			3946	1889	2225			4114	104.26
05/08/14	2			3946	2006	2072			4078	103.35
05/09/14	2			3876	1919	1961			3880	100.10

Measured Yield/Milk Shipped Comparison

- Minimum of 3 consecutive days, 5 days give better results
- Deviation must be $\pm 3\%$ average over evaluation period
- Spreadsheet template available from QCS
- **Cannot use EMMR or parlor performance report like PCDART or DC305**

Test Day/Milk Shipped Deviations < 96%

- Older Standard Bore Tru-Test meters & Waikato meters accurately proportion milk at flow rates up to 24 lbs/minute
- **May be underestimating milk yield during peak flow rates – possibly 3-5% of total milk yield**
- Need to use the right equipment for the job
 - Wide Bore (WB) meters accurately proportion milk at flow rates up to 32 lbs/minute
 - Use on-farm EMM if available



Test Day/Milk Shipped Deviations > 110%

- Many possibilities for high TD/MS deviations – milking times, meter recording accuracy, group order, equipment modification, etc.
- Use of Milkrite impulseAir, Lauren, or Conewango vented inflations is one concern
- Changes the milk-air ratio in the cluster/milk line – exceeds the ISO standard for air flow of 30 liters per minute
- Tru-Test meters (actually all ICAR-certified meters) are tested and approved to operate within ISO tolerances for air admission



Testing for Potential Effect of Vented Inflations

- The ICAR Recording and Sampling Devices SC (RSD-SC) met in February 2017
- Similar concerns from Canada, UK, Denmark, Germany, Poland, France and Netherlands regarding vented inflations
- Manufacturers slow to comment as these inflations are non-OEM equipment
- RSD-SC testing the effect of vented inflations on milk meters
 - 5 classes of meters
 - 3 milk flow rates (3, 6, & 9 kg/minute)
 - 9 air admission rates (including 3 that exceed ISO specifications)



Preliminary Vented Liner Test Results

- Each brand of vented inflation has different air admission levels but all above ISO specifications
- Lack of consistency (QC) in air admission level within a brand of vented inflation
- Air admission level can be affected by stall location and system vacuum level



Preliminary Test Results

High flow rates, increased by high air inlets from the vented liners caused obvious over estimation of the milk yield. That was much lower with classical liners with standard air inlets.



Figure 1: influence of the maximum flow rate on milk yield deviation with classical and vented liners.

Preliminary Air Admission Test Results

- Increasing air admission causes over estimation of milk yield in meters tested and certified within ISO levels
- The higher the milk flow rate, the greater the overestimation of milk yield
- Different devices are affected to different degrees
- Concern for management data more than genetic evaluations – decisions on cow management are made in the first 120-150 days of lactation when milk flow is highest



Discussion Points on DHI and Vented Inflations

- Adjustment of milk weights at the whole herd level is NOT an option
 - Accuracy is only affected at higher flow levels
 - Low producing cows or slow milking cows are affected at a lesser rate
- Certain systems – DeLaval MM27BC, Afilite MPC, Interpuls MMV – have procedures to compensate for change in air admission
 - Use of these on-farm meters is better choice than using DHI portable meters for milk weight recording
- In addition to overestimating of milk yields, milk samples in some systems are not representative
 - Oversampling of milk at peak flow rates (usually lower in fat & SCC)
 - Foaming of milk due to increased air admission
 - Flooding of subsampler resulting in milk from last portion of milk letdown is not being sampled
- This challenge is across borders and ICAR research continues - National DHIA is engaged in understanding of issue and working together with Canada & Europe to solve these challenges and deliver direction and/or policy.



"This desk job is killing me Jim. I need to be out in the field."

Thank You Field Service Managers!

Meter Center & Technician Update



Field Service Advisory Committee
March 6, 2018

Steven Sievert
Manager, Quality Certification Services Inc.
Technical Director, National DHIA
Chair, ICAR Subcommittee for Recording and Sampling Devices

Auditing Guidelines for Meter Centers & Techs

- **Certification for meter centers is procedure specific**
 - **Standard Flow Test Method**
 - **Fast Flow Test Method**
 - **Dual Meter Test Method**
 - **Weight Test Method (Portable Scales)**
- **Certification for meter technicians is model specific**

What Happened to 'Speed Flow' Test Method?

- Speedflow test method was proposed in 2012 for Waikato meters (MKV and SpeedSampler)
- Goal was a 20 lb./min flow rate (90 seconds)
- Tests conducted in 6 meter centers using same meters
- **Failed testing for repeatability and reproducibility**
 - **Flow rate ranged from 16.2 to 26.1 lb./min**
 - **Time ranged from 77 to 129 seconds**
 - **Calibration results averaged 0.71 lb. higher than standard flow**
 - **Determined was not suitable for calibration of Waikato meters**

Audit Definitions

Mandatory

- Regularly scheduled audit conducted during the centering month
- Current audit schedules are included in your folder

Discretionary

- Deemed necessary by either the auditor or provider when
 - New location for meter center
 - Reconstruction or redesign of meter center
 - New meter technician(s)
 - New procedure(s)
 - New calibration wand (if moving from closed jar-to-jar system)
 - Change in vacuum pump/source
 - Change in receiving jar/vessel

Meter centers are responsible for all costs with discretionary audits.

Changes in Auditing Guidelines

- No proposed changes in guidelines from the field.
- There is one ICAR-certified portable meters to add to list of approved models for cows.
 - Lactocorder LC-S (also sold by Tru-Test as Lactocorder T-T)
 - Will need additional development time before actively sold in USA
 - Calibration will require a new wand with new flow reducer
- Guidelines for Meter Centers and Technicians need to be refreshed and restructured – propose review in 2018 and present at 2019 FSAC.
- **Still significant number of older Tru-Test standard bore (yellow) & FOSS Milko-Scope meters in service – need to have a business plan to retire these meters.**

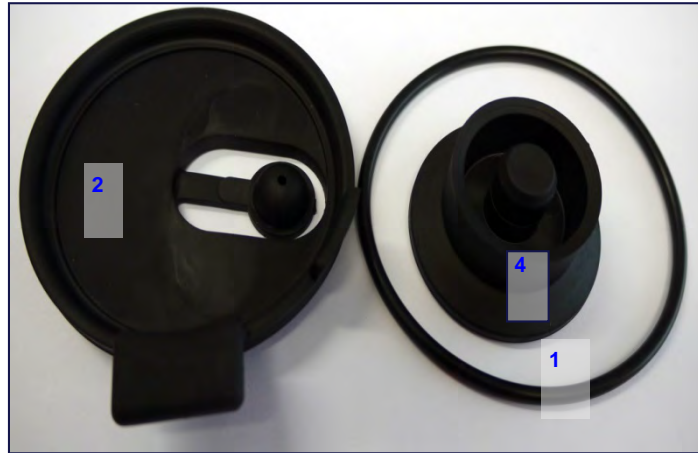


Certified DHI Portable Meters – 2017

Model	Model	2013	2014	2015	2016	2017
FOSS	Milko-Scope	96	31	31	33	32
Tru-Test	Auto Sampler (SB & WB Models)	18,518	17,558	16,884	16,903	15,784
Tru-Test	Economy (SB)	1,881	1,742	1,313	1,097	643
Tru-Test	Electronic Milk Meter	426	405	450	550	542
Tru-Test	Ezi-Test (SB & WB Models)	8,418	8,624	8,917	8,648	7,748
Tru-Test	Farmer (SB)	3,918	3,278	2,993	2,793	1,835
Tru-Test	Pullout (SB & WB Models)	41,902	39,873	39,105	39,174	36,784
Waikato	MK V (includes farmer-owned)	8,916	8,745	8,846	8,817	8,716
Waikato	SpeedSampler	186	179	168	132	109
Total		84,261	80,435	78,707	78,147	72,193

Note – Two (2) Field Services completed substantial meter inventory reduction and reallocation in 2017

Yearly Service Kits Are Required



General Observations from Meter Centers

- **Still observing unapproved meter modification of parts so the meter samples faster resulting in inaccurate samples**
 - **Removal of ball in valve of the Tru-Test Ezi-Test meter**
 - **Cutting the tap of the Waikato MK V meter**
 - **Modification of the sampler in the Tru-Test Auto Sampler meter**

General Observations from Meter Centers

Trying to repair cracked bodies or caps with glues/cement

- **Weakens the whole meter**
- **Introduces air leaks**
- **Not approved for Grade A dairies (PMO/FDA)**



Trying to repair broken hose nipples on bodies or caps

- **Brass hose connectors**
- **Ball point pens**
- **Not approved for Grade A dairies (PMO/FDA)**



Dirty Flasks on Meters



CIP is not effective for meter cleaning in many modern parlors

- **need to add 1 gallon of water plus detergent/acid for each meter**
- **Cannot adjust cleaning cycle – DHI is locked out of system**
- **Entire flask does not clean or sanitize**

Dirty Valves on Meters



FDA/PMO Compliant Options

Vanden Bosch Testing (ID)



5/8 to 5/8 is \$5.25
5/8 to 3/4 is \$14.50

Mini-Cassia Dairy Testing (ID)



5/8 to 5/8 is \$9.00
5/8 to 3/4 is \$9.00

American Weigh Scales – PK Series

- Digital scale with low purchase price (\$22-26 each)
- 66 lb..... and 110 lb..... models available
- Easy to carry in computer bag
- Accurate but not legal for trade
- Can be easily calibrated
- Modern image for DHI providing accurate results
- 10-year warranty



Meter Technician Training School - 2017

Thank you
to NorthStar
Cooperative for
hosting the
2017 MTTs

NorthStar Cooperative
INC.



AntelBio

DHI



On-Line Resources

QCS resources on-line:

- **Presentations from MTTTS**
- **Fact sheets/pass fail charts**
- **Manuals for each meter model**
- **Certification exams for meter technicians (no charge)**
- **What other resources are needed?**

Meter Centers & Technicians

[Auditing Guidelines for Meter Centers and Technicians](#)
Version 14.0 - Effective July 29, 2014

Meter Technician Training Presentations and Resources
Updated August 31, 2017

[Auditing Procedures for Meter Centers & Technicians](#)
[Meter Technician Calibration Procedures](#)
[Calibration of Portable Scales](#)
[Care and Maintenance of Portable Meters](#)
[Care and Maintenance of Super Clamps](#)

[Meter Calibration Fact Sheet](#)
[Meter Calibration - Pass/Fail Chart](#)
[Scale Calibration - Pass/Fail Chart](#)

Meter and Scale Technician Certification Exams
Updated August 31, 2017

[Meter Technician Procedures - Certification Exam](#)
[Scale Technician Procedures - Certification Exam](#)
[Calibration of Tru-Test Meters - Certification Exam](#)
[Calibration of Waikato Meters - Certification Exam](#)

Repair and Maintenance Manuals for Approved Portable Meters
Updated August 31, 2017

[Tru-Test Farmer \(SB\)](#)
[Tru-Test Econo-Valve \(SB\)](#)
[Tru-Test Pull Out \(SB\)](#)
[Tru-Test Pull Out \(WB\)](#)
[Tru-Test Ezi-Test \(SB\)](#)
[Tru-Test Ezi-Test \(WB\) \(EN\) \(ES\)](#)
[Tru-Test Auto Sampler \(SB\)](#)
[Tru-Test Auto Sampler \(WB\) \(EN\) \(ES\)](#)
[Tru-Test Electronic Milk Meter \(EMM\)](#)
[Tru-Test Data Handler \(for use with Tru-Test EMM\)](#)
[Tru-Test Hangers and Brackets](#)
[Waikato MK V](#)
[Waikato Speed Sampler](#)
[Foss Milko-Scope II](#)

Meter Technician Training Schools – 2018/2019

- DHI Cooperative Inc. & Tennessee DHIA - planned for October 2018 with full training on all meter models.
- Dalhart, TX (Circle H Headquarters, LLC) with focus on Tru-Test Auto Samplers only – specifically for ISPs in Western TX and Eastern NM.
- Spring 2019 in California and hosted by DHIA West – working on planning at present time.



Accurately Describing the Test Day



Field Service Advisory Committee Meeting
March 6, 2018

Steven Sievert
Technical Director, National DHIA

Important Variables to Describe

Current Coding

- Herd Code
- Field Service, Meter Center and Laboratory Codes
- Supervision Code
- QC Code
- Work Completed – Weighed, Sampled, MRD

Future Needs

- Coding by Strings or Pens
- Equipment Type or Code (Meter, Sensor Name)
- Milking System Description
- Herd Management Description

Herd Code Blocks Assigned by National DHIA Office

Herd Code Assignment

- Blocks assigned to field service affiliates
- Third parties (VAS) have been assigned blocks of herd codes
- Heifer growers may be using specific herd codes for record keeping
- Non-processed herds at each affiliate that may be using a specific herd code
- Auto incrementing of herd codes is not an option

Herd Code Assignment

A new herd assigned when...

- New ownership of herd but at same location
- The herd moves to a new location (state, county, etc.)

Do not assign a new herd code when...

- Herd transfers from one affiliate to another and/or another DRPC
- It may be quicker than obtaining intent to transfer and release for the herd but is not in compliance with UOP

Provider Codes

References

Field Service 118

Meter Centers 161

Labs 346

Field Service	Code is associated with the state where your office is located
Meter Centers	Meter center codes range from 900-999 Independent goat meters/scales: 998 EMM calibrated by third party: 999
Labs	Lab codes range from 800-899

- Codes assigned by National DHIA
- Listed on QCS website for certified providers
- Allows for data exclusion from provider not certified for a specific period

Quality Certification Codes

Reference 118

<u>Code</u>	<u>Description</u>
1	All data (event, yield, components) are used MEETS ALL QC
2	Event data and yield are used but components are not used METERS ARE CERTIFIED, LAB IS NOT
3	Event data is used but yield and components are not used METERS DO NOT MEET QC
4	The data (event, yield, components) do not meet QC and are not used DOES NOT MEET QC

DHI Supervision Codes

Reference 108

<u>Code</u>	<u>Description</u>
0	Not used
1	Supervisor conducted test
2	Owner conducted test
3	Both supervisor and owner conducted test
4	Automated Milking System
5	Supervisor conducted test using electronic recording
6	Owner conducted test using electronic recording
7	Both supervisor and owner conducted test using electronic recording
8	Verification test not using electronic recording
9	Verification test using electronic recording

DHI Supervision Codes

Herds with Manual Yield Recording

SUPERVISED TEST: All test day production data and cow identification has been recorded by the DHI technician who is expected to collect data as accurately as possible and to use approved procedures when taking milk samples. The DHI technician may employ assistants to perform these tasks when the facilities or milking processes do not permit a single DHI technician to observe identification, milk weights, and sample collection as they occur. (***Supervision Code 1***)

UNSUPERVISED TEST: Test day production data and/or cow identification has been recorded by someone other than the DHI technician. (***Supervision Code 2***)

PARTIALLY SUPERVISED TEST: The DHI technician collected production data and/or cow identification information for at least one milking on test day and someone else collected production information and cow identification for other milking(s) on test day. The DHI technician certifies that the test day information is believed to be correct and accurate. (***Supervision Code 3***)

DHI Supervision Codes

Robotic Herds

AUTOMATIC MILKING SYSTEM TEST: Test day production data and/or cow identification has been recorded by an automatic/robotic milking system. Milk has been sampled using an automatic sampling device approved to provide representative samples when used with the automatic milking system.
(Supervision Code 4)

DHI Supervision Codes

Herds with Electronic Yield Recording

SUPERVISED ELECTRONIC TEST: The DHI technician performed a supervised test using the electronic recording of production data and cow identification together with appropriate verification that equipment for cow identification, weighing milk, and obtaining milk samples is in proper operating condition and is accurate. (*Supervision Code 5*)

UNSUPERVISED ELECTRONIC TEST: Test day production and cow identification has been collected using electronic recording and is submitted for processing without verification by a DHI technician. (*Supervision Code 6*)

PARTIALLY SUPERVISED ELECTRONIC TEST: The DHI technician performed a Supervised Electronic Test, but cow identification was manually entered by farm employees. (*Supervision Code 7*)

DHI Supervision Codes

Reference 108

<u>Code</u>	<u>Description</u>	<u># Herds</u>
0	Not used	
1	Supervisor conducted test	12,175
2	Owner conducted test	4,083
3	Both supervisor and owner conducted test	21
4	Automated Milking System	67
5	Supervisor conducted test using electronic recording	763
6	Owner conducted test using electronic recording	111
7	Both supervisor and owner conducted test using electronic recording	17
8	Verification test not using electronic recording	2
9	Verification test using electronic recording	0

Looking at Test-Day Characteristics

Herd 32370204

Test Date	DIM	Freq	Supervision	Weighed	Sampled	Rec days	Animals
2009-09-03	28	3	6	3	0	7	3492
2009-10-12	67	3	5	3	1	7	3485
2009-11-09	95	3	5	3	1	7	3480
2009-12-07	123	3	6	3	0	7	3469
2010-01-04	151	3	5	3	1	7	3490
2010-02-08	186	3	5	3	1	7	3504
2010-03-09	215	3	5	3	0	7	3465
2010-04-12	249	3	5	3	1	7	3455
2010-05-03	270	3	7	3	1	7	3463
2010-06-07	305	3	5	3	1	7	3496

Number of tests included 10

Number of non-QC tests excluded 0

DCR for Milk 102.1 Components 82.3

<h3>Testing Characteristics</h3>

32370204

Test Date	Center	DHI	Cows	Freq	Weigh	Sample	MRD	Supv	Species	Breed	
20100607	07	034	3496	3	3	1	7	5	0	HO	
Updated Plan	Method	%Ship	Good	ID	Milk	Fat	Prot	SCS	Age	QC	In File
20100610	02	2	100	100	25232	881	746	2.3	37	1	3415

Potential Inaccuracies

Is this herd milked 2x or 3x?

Does it change each month?

Did the tech sample all the milkings?

Test Date	DIM	Freq	Supervision	Weighed	Sampled	Rec	days	Animals
2009-09-09	26	2	1	2	2	1		1313
2009-10-23	70	3	1	3	3	1		1274
2009-12-05	113	3	1	3	3	1		1241
2010-01-14	153	2	1	2	2	1		1250
2010-02-10	180	3	1	3	3	1		1254
2010-03-08	206	2	1	2	2	1		1228
2010-04-14	243	2	1	2	2	1		1258
2010-05-18	277	2	1	2	2	1		1243
2010-06-15	305	2	1	2	2	1		1239

Number of tests included 9
Number of non-QC tests excluded 0
DCR for Milk 98.8 Components 98.8

Testing Characteristics

Test Date	Center	DHI	Cows	Freq	Weigh	Sample	MRD	Supv	Species	Breed
20100615	10	082	1239	2	2	2	1	1	0	XX
Updated Plan Method	%Ship	Good	ID	Milk	Fat	Prot	SCS	Age	QC	In File
20100621 00	1	101	45	22558	891	749	2.9	41	1	51

Test Date	Center	DHI	Cows	Freq	Weigh	Sample	MRD	Supv	Species	Breed
20100615	10	082	-1	3	2	2	1	1	0	HO
Updated Plan Method	%Ship	Good	ID	Milk	Fat	Prot	SCS	Age	QC	In File
20100621 00	1	-1	0	-1	-1	-1	-0.1	-1	1	461

Potential Inaccuracies

Did the technician really weigh all 3 milkings or was this electronic meters?

Did the technician really sample all 3 milkings on this 3400-cow herd?

Test Date	DIM	Freq	Supervision	Weighed	Sampled	Rec	days	Animals
2009-09-01	32	3	1	3	3	1		3297
2009-09-28	59	3	1	3	3	1		3260
2009-11-02	94	3	1	3	3	1		3233
2009-12-01	123	3	1	3	3	1		3266
2010-01-04	157	3	1	3	3	1		3333
2010-02-01	185	3	1	3	3	1		3363
2010-03-01	213	3	1	3	3	1		3327
2010-04-05	248	3	1	3	3	1		3375
2010-05-03	276	3	1	3	3	1		3364
2010-06-01	305	3	1	3	3	1		3409

Number of tests included 10
Number of non-QC tests excluded 0
DCR for Milk 99.3 Components 99.2

<h3>Testing Characteristics</h3>

82410191

Test Date	Center	DHI	Cows	Freq	Weigh	Sample	MRD	Supv	Species	Breed	
20100601	10	082	3409	3	3	3	1	1	0	HO	
Updated Plan	Method	%Ship	Good	ID	Milk	Fat	Prot	SCS	Age	QC	In File
20100609	00	1	101	49	24329	827	738	1.9	39	1	2301

Future Herd Descriptors Needed

Coding by Strings or Pens

- Different milking frequencies, supervision, etc. for different pens, parlors, sites

Equipment Type or Code (Meter, Sensor Name)

- Need to know source of data as we may have the same data (i.e. SCC) coming from different equipment

Milking System Description

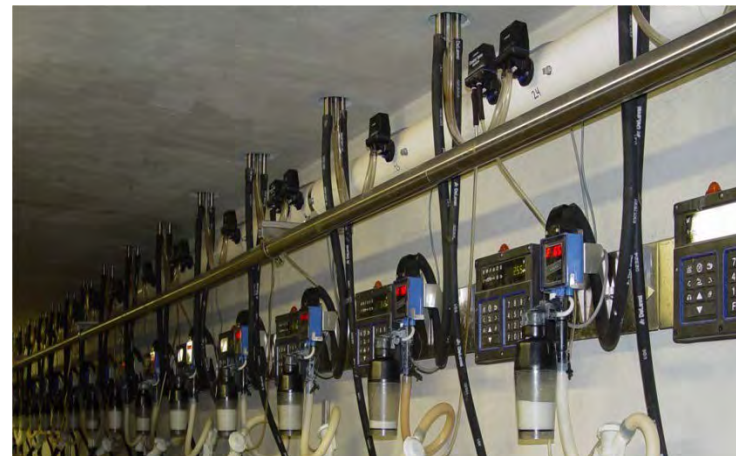
- Rotary, Parallel, Stall Barn, etc.
- In-Line Sensors

Herd Management Description

- Seasonal calving, grazing, confinement, etc.
- Others?

Take Home Points

- **Need to accurately describe/code test day and data sources**
- **Has to be a cooperative effort with field service, DRPC and National DHIA**
- **National DHIA is working with CDCB to ensure proper data handling and usage based on descriptive coding**
- **We will need to expand the capture of herd descriptive information to meet future needs**
 - **Multi-site dairies**
 - **Sensor devices**
 - **Provide qualified data for management and genetic research and reporting**



QCS Proficiency Testing Program Update

March 6, 2018

Steven Sievert
Manager, Quality Certification Services Inc.
Technical Director, National DHIA
Chair, ICAR Subcommittee for Recording and Sampling Devices

'Retired' Samples Unknown Program Challenges

- **For the administrators**
 - Limited scope and not expandable
 - System maintenance
 - Updates needed in reporting, statistics, static pages
- **For the end users**
 - Redundancy in steps and entries
 - Data upload was not possible
 - Old static plots
 - Browser compatibility was limited
 - Ability to use tablets/iPads

QCS Proficiency Testing Website

- Finished a complete rewrite of the QCS PT website in 2017
- Quantitative PT platform launched in August 2017
 - Traditional milk components – Fat, True Protein, SCC, MUN
 - Imported all historical data for all labs and instruments
 - Added an 'IMPORT DATA' function for rapid reporting of results
 - Have the ability to add new components such as fatty acids, BHB, casein
- Qualitative PT platform launched in January 2018
 - Flexible design for tests such as ELISA or PCR
 - Supports PT testing on milk or serum
 - Have the ability to add new tests PAG, BLV, BVD
 - Added a 'SUSPECT' or 'RECHECK' range for validation

QCS PT Website – Quantitative Platform Conformance Reports

Samples Unknown - Conformance Report

Minnesota DHIA - Zumbrota Lab

Station C4

PT Sample Set	Milk Urea Nitrogen		
	MD	SDD	RMD
232	0.427	0.821	0.039
233	0.715	0.887	0.200
234	0.337	0.609	0.298
235	0.350	0.289	0.408
236	-0.428	0.534	0.244
237	-0.353	0.438	0.175

Station D2

PT Sample Set	Butterfat			Protein			Milk Urea Nitrogen			SCC		
	MD	SDD	RMD	MD	SDD	RMD	MD	SDD	RMD	MD	SDD	RMD
232	-0.012	0.016	-0.002	0.008	0.016	-0.003	0.860	0.510	-0.263	-2.4	3.3	0.2
233	-0.013	0.028	-0.004	0.010	0.013	0.001	-0.177	0.282	-0.124	5.4	5.2	0.8
234	0.005	0.026	-0.004	-0.014	0.013	-0.002	0.991	0.500	0.173	9.6	3.0	3.4
235	0.013	0.028	-0.003	-0.010	0.012	-0.002	0.704	0.667	0.322	4.4	3.2	3.6
236	0.025	0.020	0.003	-0.014	0.012	-0.001	-0.457	0.761	0.144	4.4	3.9	-3.3
237	0.000	0.020	0.003	0.007	0.009	-0.002	-0.353	0.587	0.281	4.1	3.7	-4.3

Station D3

PT Sample Set	Butterfat			Protein			Milk Urea Nitrogen			SCC		
	MD	SDD	RMD	MD	SDD	RMD	MD	SDD	RMD	MD	SDD	RMD
232	0.008	0.016	0.001	0.009	0.019	-0.003	0.702	0.641	-0.086	-3.1	4.2	2.5
233	0.016	0.023	0.002	-0.011	0.017	-0.003	0.865	0.477	0.100	2.2	4.0	2.4
234	0.002	0.020	0.004	0.001	0.016	0.000	-0.155	0.809	0.208	3.8	2.2	2.5
235	0.023	0.024	0.009	0.012	0.014	0.005	0.492	0.635	0.282	-1.3	7.0	1.5
236	-0.003	0.019	0.009	0.020	0.015	0.007	-0.503	0.985	0.097	-4.5	3.1	0.4
237	-0.019	0.019	0.004	0.011	0.010	0.007	-0.765	0.639	0.106	4.3	4.4	0.2

Station F1

PT Sample Set	Butterfat			Protein			Milk Urea Nitrogen			SCC		
	MD	SDD	RMD	MD	SDD	RMD	MD	SDD	RMD	MD	SDD	RMD
232	-0.017	0.024	0.003	0.002	0.019	-0.006	0.468	0.620	-0.012	-0.2	3.8	1.5
233	0.006	0.028	0.003	-0.012	0.012	-0.006	0.790	0.743	0.145	4.0	3.7	1.6
234	-0.004	0.013	0.001	-0.017	0.007	-0.007	0.783	0.736	0.285	1.1	4.4	2.0
235	0.007	0.017	-0.001	-0.008	0.007	-0.006	1.208	1.103	0.530	3.9	6.5	2.7
236	-0.001	0.013	0.000	0.017	0.007	-0.006	-0.615	0.569	0.321	1.5	4.4	2.6
237	-0.004	0.020	-0.002	0.012	0.010	-0.001	0.151	0.634	0.464	6.9	6.4	2.9

Conformance Configuration

- Cell coloring**
- x.xxx Outside defined limits and part of conformance check
 - x.xxx Inside defined limits and part of conformance check
 - x.xxx Outside defined limits but not part of conformance check
 - x.xxx Inside defined limits but not part of conformance check

For an instrument to fail one of the following must occur

	MD	SDD	RMD
	must not be outside limits listed below in three of the four previous trials	must not be outside limits listed below in three of the four previous trials	must not be outside limits listed below in five of the six previous trials
Butterfat	+/- 0.040	0.040	+/- 0.020
Protein	+/- 0.040	0.040	+/- 0.020
Milk Urea Nitrogen	+/- 1.500	1.500	+/- 0.750
SCC	+/- 10.0	10.0	+/- 5.0

QCS PT Website – Quantitative Platform Certification Reports

Certification Report - PT Sample Set 236 Demo Laboratory / Station A

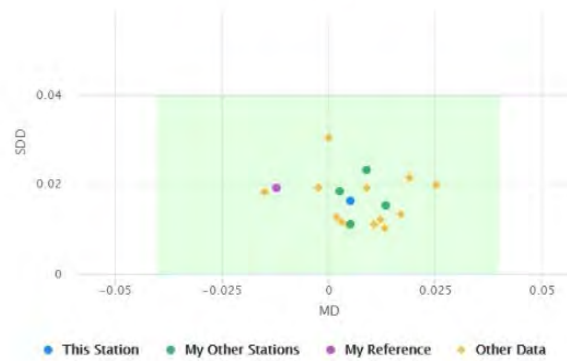
[View Data] [Back to Dashboard]

Start Time: 7/15/2017 12:00 AM
End Time: 7/17/2017 10:00 AM

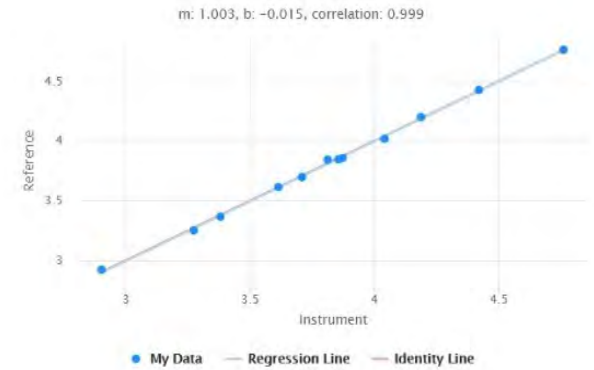
Butterfat

Sample Number	All Site Statistics				Site Precision Stats			Site Accuracy Stats			
	Reference Average	All Instrument Average	Difference		Result Rep 1	Result Rep 2	Range	Standard Deviation	Result Mean	Difference	Z-score
1	3.941	3.891	-0.011		3.911	3.921	0.001	0.007	3.915	-0.026	-1.147
2	3.251	3.201	0.008		3.281	3.271	0.011	0.007	3.275	0.024	1.202
3	3.695	3.705	0.011		3.711	3.711	0.000	0.003	3.711	0.015	1.325
4	4.157	4.195	-0.001		4.191	4.191	0.000	0.000	4.191	-0.007	-0.513
5	3.612	3.619	0.003		3.611	3.621	0.011	0.007	3.615	0.003	0.311
8	4.018	4.044	0.028		4.041	4.041	0.000	0.000	4.041	0.024	1.752
7	3.305	3.303	-0.002		3.381	3.301	0.081	0.007	3.385	0.021	1.103
8	3.844	3.882	0.018		3.861	3.851	0.011	0.007	3.855	0.011	1.064
9	3.858	3.872	0.017		3.881	3.871	0.011	0.007	3.875	0.019	1.735
10	4.761	4.783	0.022		4.761	4.761	0.000	0.003	4.761	-0.001	-0.067
11	4.424	4.424	0.001		4.421	4.421	0.000	0.001	4.421	-0.004	-0.298
12	2.922	2.913	-0.003		2.911	2.911	0.000	0.007	2.905	-0.017	-0.584
		MD	0.007						MD	0.005	
		SDD	0.012					Average SDD	0.005	SDD	0.016

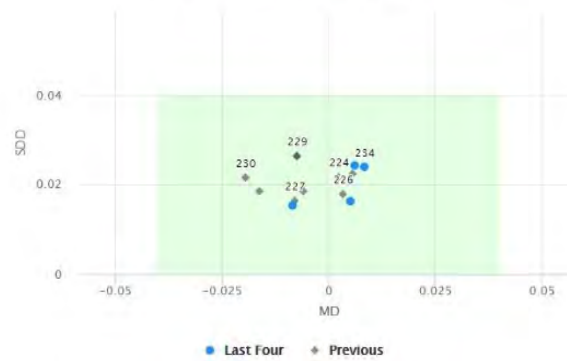
PT Sample Set Comparison



Regression



Performance Last 12 Trials



Historical Performance



QCS PT Website – Qualitative Platform

Conformance Summary Report

Johne's Milk ELISA PT / Trial 197 - Johne's - Overview

[Edit]

[Back to PT Sample Sets]

Start Date	1/8/2018 3:00 PM
Due Date	1/25/2018 11:59 PM
Reference Due Date	1/25/2018 11:59 PM
Release Date	1/31/2018 1:32 PM

Update Statistics

IDEXX

Reference	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	+	?	-	(+)	(?)	(-)	B	Overall
Deh...	+	-	+	+	-	-	+	-	+	?	?	?	-	-	-	-	+	-	?	100.0%	-	100.0%	28.6%	-	-	-	80.0%	
...	+	-	+	+	-	-	+	-	+	?	?	?	-	-	-	-	+	-	(+)	100.0%	75.0%	100.0%	7.1%	-	-	-	95.0%	
...	+	-	+	+	-	-	+	-	+	?	?	?	-	-	-	-	+	-	(+)	100.0%	-	100.0%	28.6%	-	-	-	80.0%	
...	+	-	+	+	-	-	+	-	+	(+)	(+)	(+)	-	-	-	-	+	-	(+)	100.0%	-	100.0%	28.6%	-	-	-	80.0%	
...	+	-	+	+	-	-	+	-	+	(+)	(+)	(+)	-	-	-	-	+	-	(+)	100.0%	25.0%	100.0%	21.4%	-	-	-	85.0%	
...	+	-	+	+	-	-	+	-	+	?	(-)	?	-	-	-	-	+	-	(-)	100.0%	50.0%	100.0%	-	-	20.0%	-	90.0%	
...	+	-	+	+	-	-	+	-	+	(+)	(+)	?	-	-	-	-	+	-	?	100.0%	50.0%	100.0%	14.3%	-	-	-	90.0%	
...	+	-	+	+	-	-	+	-	+	(+)	(+)	(+)	-	-	-	-	+	-	(+)	100.0%	-	100.0%	28.6%	-	-	-	80.0%	
...	+	-	+	+	-	-	+	-	+	(+)	(+)	(+)	-	-	-	-	+	-	(+)	100.0%	-	100.0%	28.6%	-	-	-	80.0%	
...	+	-	+	+	-	-	+	-	+	(-)	(-)	(-)	-	-	-	-	+	-	(-)	100.0%	-	100.0%	-	-	40.0%	-	80.0%	
...	+	-	+	+	-	-	+	-	+	(-)	?	(-)	-	-	-	-	+	-	?	100.0%	50.0%	100.0%	-	-	20.0%	-	90.0%	
...	+	-	+	+	-	-	+	-	+	(+)	(+)	?	-	-	-	-	+	-	?	100.0%	50.0%	100.0%	14.3%	-	-	-	90.0%	
...	+	-	+	+	-	-	+	-	+	(+)	(+)	(+)	-	-	-	-	+	-	(+)	100.0%	-	100.0%	28.6%	-	-	-	80.0%	

+	Correct Positive
?	Correct Suspect
-	Correct Negative
(+)	False Positive
(?)	False Suspect
(-)	False Negative
B	Bad Measurement / Missing measurement
E	Excluded
	Overall

QCS PT Website – Qualitative Platform Certification Reports

Pregnancy Milk ELISA PT Certification Report - PREG PT 1

[View Data] [Back to Dashboard]

Start Time 12/9/2017 12:00 AM

End Time 12/9/2017 10:08 AM

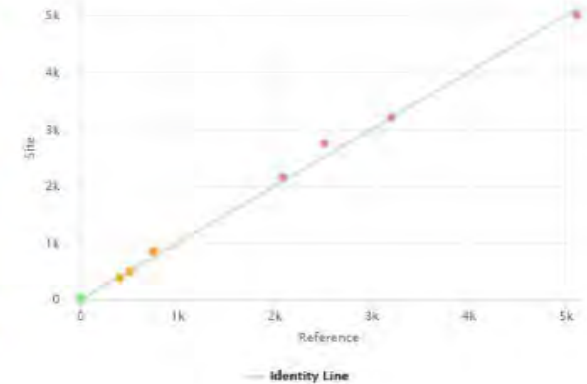
Conformance

	Positive	Suspect	Negative	Overall
Correct	100.0%	100.0%	100.0%	100.0%
False				

Current PT Sample Set Results

Sample	Reference	Site	Difference	Result	Conclusion
1	10	22	-12	- -	Correct Negative
2	5020	5111	-111	+ +	Correct Positive
3	492	510	-18	? - ?	Correct Suspect
4	0	1	-1	- -	Correct Negative
5	3200	3211	-11	+ +	Correct Positive
6	15	15	0	- -	Correct Negative
7	350	755	95	? - ?	Correct Suspect
8	2750	2512	238	+ +	Correct Positive
9	0	2	-2	- -	Correct Negative
10	2150	2087	63	+ +	Correct Positive
11	40	0	40	- -	Correct Negative
12	385	405	-20	? - ?	Correct Suspect

Regression Analysis



Historical Performance

Conclusion	PREG PT 1	Last 3 Months	Last 6 Months	Last 12 Months
Correct Positive	100.0%	100.0%	100.0%	100.0%
Correct Suspect	100.0%	100.0%	100.0%	100.0%
Correct Negative	100.0%	100.0%	100.0%	100.0%
False Positive	-	-	-	-
False Suspect	-	-	-	-
False Negative	-	-	-	-
Missing	-	-	-	-
Bad measurement	-	-	-	-
Overall Conformance	100.0%	100.0%	100.0%	100.0%

Qualitative PT Program – Johne's ELISA

Added suspect range for Johne's (MAP) ELISA in January 2018

- January results had laboratories with mixed results
 - Correct suspects - False negatives - False positives
- IDEXX MAP suspect range is S/P between 0.20 and 0.30
- Same test kit had range of positive controls that was 2x which affects the 'slope' of the sample result range
- Net effect was labs were outside either edge of suspect range
- Visited with IDEXX technical staff and continue to investigate options/solutions

Will not affect your certification at this time

Qualitative PT Program – Pregnancy ELISA

Planned launch of PT for Milk Pregnancy ELISA – Spring

- Ability to include multiple test kits – IDEXX, Conception, etc.
- Initial plan is bimonthly (6x/year) for all technicians
- Twelve (12) samples in each PT set
- Report results as Pregnant, Open or Recheck
- Visited with IDEXX technical staff about test kit composition
- ELS would provide sample set via routine channels
- QCS could provide feedback to each test kit manufacturer to aid in troubleshooting and training – would include consent box with program application



National DHIA

San Antonio March 6, 2018

DHI & ROBOTS

Jeff Parker

Robot Service Specialist

CanWest DHI

DHI & ROBOTS



Integrity • Service • Innovation



Here To Stay



Currently 700+ Robotic herds on DHI Canada

400 for CanWest DHI

January 2018 – 15 new “first test” herds

Make up 12% of our current business

Builders booking for 2019-2020

In The Field

- 65 Lely Shuttles
- GEA 8 ON, 3 BC dealer/farmer owned
- DeLaval 22 ON, 3 AB, 3 BC dealer owned
- 44 Ori Samplers
- + 30 more
- 60 staff handle on farm sampling

Challenges

- Keeping herds on test
- “Robot” became 4 letter word
- Staff hated testing robots
- Test Day “Issues”
- Nobody to help
- Staff/samplers/Geography
- Nobody wanted to “deal” with them!

Bottlenecks

- Robot Specialist Sept 2015
- Staff was miserable
 - Training
 - Extra hours
 - Samplers big, heavy, didn't work
 - Producers felt the same!
- Always reacting to situations

More Bottlenecks

- Robot companies unwilling support
- Rarely got all samples
- Sour samples
- Low fat % concerns
- Missing data
- Didn't know about herds moving to robotics
- Producers questioned the value

Problems



Turn Around

- Staff training – kits, cleaning, on-farm impression
- YouTube videos, updated manuals
- 1-800-call Jeff – staff & producers
- Focused on identifying herds moving robots
- Helped but still had big holes!

Ori Sampler

- Purchased 2, around 3 years ago
- Ok – big and not really an improvement
- World Dairy Expo – list of concerns
- Ori Light – purchased 2 in spring of 2016
- Trial using a “C” student close to home
- Saw way too many positives to ignore

Positives



Victory!!!!

- We got all the samples
- Light weight
- Easy to clean
- Multiple uses
- Simple operation
- Happy, Happy, Happy
- WE GOT ALL THE SAMPLES!!!!



Moving Forward

- Pro-Active instead of Re-Active
 - Contacting herds before they switch
 - First test extremely important
 - Explain the sampling process
 - Fat % influences
 - “All herds quit DHI testing”...?
 - Difference between on farm data & DHI

Closing the Gap

- Local area “Robot” reps
 - Contact producer before the switch
 - Be present at every first test
 - Help line for their area staff/producers
- Continued staff training
- Monitoring low fat herds – pro actively
- Social media – addressing concerns

Social Media

 February 1 at 10:00am

Still bothers me to milk test.
Robot numbers DHI
202 159# 4.0%f 3.0%p..... 3.2%f 2.7%p
845 147# 2.7%f 3.0%p.....2.2%f 2.7%p
644 154# 3.2%f 3.2%p.....2.4%f 3.0%p... See More

 Like  Comment

 4

 **Ryan Wright** I find it all depends on time of day seems like afternoon evening is most accurate for me

Like · Reply · 3d


 **Mark Yeazel Ja-Bob Holsteins** I agree. I insist they come later in day and we leave it overnight

Like · Reply · 3d

 **Ryan Wright** Before I was getting herd bf .5% lower than tank


Like · Reply · 3d


 **Mark Yeazel Ja-Bob Holsteins** Ryan Wright I still do in summer. Once had 31 cows less than 2%. I asked them to retest.


 **Stefan Signer** You are comparing apples to oranges. DHI result is a single milking, MQC is all milkings in 24hr period. Time of day can have a huge effect on milk composition.

Also based on quality (price) of test MQC will never have the same accuracy as a lab result. It's more useful for measuring fluctuations caused by ration changes, e.g.


Like · Reply · 3d






 **Mark Yeazel Ja-Bob Holsteins** I don't think the milk from high producing cows is agitated enough before it is sampled for DHI


Like · Reply · 3d  1

 **Kevin Jones** Is MQC daily not as good as dhi ounce a month in managing scc in a herd? I'd like your opinion because I'm recently into robots and am on the fence about dhi


Like · Reply · 3d

 View more replies

 Write a reply...    

 **Matthew Rogers** I would still look at 845 and 644 regardless.

Like · Reply · 3d

 **Brad Fledderus** How's this compared to your bulk tank I had a simaler exaperiance on our first dhi test 4.07% in tank....3.7 on dhi....4.03 on robot...and dhi is the "official"

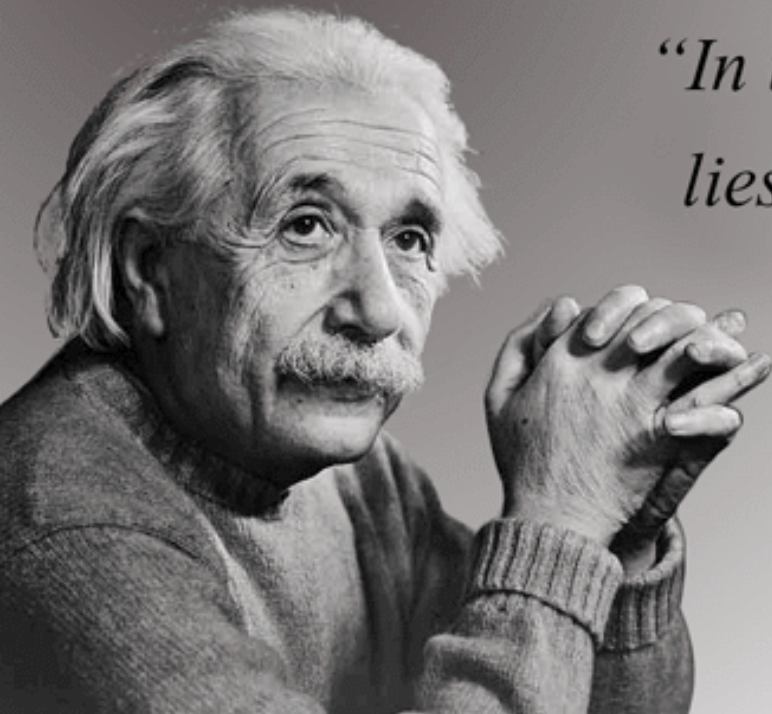
Future

- Every robot herd has secondary contact
- Using all Ori Samplers – no dealers
- One on one conversation with key accounts – they determine future
- Open door with flexibility
- Benchmarking specific to robots

Summary

- Last 2yrs 3/4 of herds continued DHI
- Ori Sampler - positive influence
 - Staff & producers attitudes
 - Test day issues decreased
- Being proactive best policy
- Focus on the right staff – give them the tools to succeed

Conclusion



*“In the middle of every difficulty
lies opportunity”*

- Albert Einstein



Ori-collector® presentation for general assembly NDHIA



San Antonio , 6 March 2018

- 📦 About FCEL, France Conseil Elevage
- 📦 Ori-Collector's story
- 📦 Project Fcel /Sayca
- 📦 ICAR Test
- 📦 Présentation of the device ori-collector®
- 📦 Market in the world
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About FCEL





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Our missions



*France Conseil Élevage (FCEL),
a national umbrella organization of companies
serving cattle and goat farmers*

Represent their interests

Reinforce their actions

Promote their expertise

Devise and disseminate innovations

**OUR
MISSIONS
FOR COMPANIES**



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OUR AREAS OF ACTION

LIVESTOCK ADVISORY



- Supporting companies in developing their livestock advisory services: training, support for changes and practices, watch.
- Ensuring alignment between farmers' expectations and needs and the services offered by our members through implementation of the Livestock Advisory Quality approach.

INNOVATION

- Supporting the FCEL network in its R&D and innovation efforts.

FACILITATION, COMMUNICATION

- Bringing our members together for joint communication actions.
- Fostering a cohesive network.
- Providing spaces for discussion and meetings.

PARTNERSHIP

- Implementing all partnership projects with the sectors involved, both nationally and internationally.

DATA COLLECTION

- Ensuring the quality of the collected data using quality management systems.
- Managing and developing information systems.
- Identifying new data to collect.

TRAINING

- Supporting the enhancement of FCEL network consultants' skills by offering customized training courses.

SOCIAL AND LEGAL SUPPORT

- Negotiating collective bargaining agreements and fostering social dialog.
- Carrying out judicial lobbying activities and providing useful support.





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Experts

A NETWORK OF EXPERTS ...

The companies in the FCEL network offer their services in a number of fields



Our network is a major player in the farming sector

By helping farmers to optimize their production costs and their products, reducing their consumption of antibiotics thanks to improved preventive measures, and increasing their efficiency, the FCEL network strengthens farmers' motivation to maintain and develop their production.





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Offer for the farmer

... SERVING FARMERS

*"Making sense of measurements"
by producing indicators that are useful to farmers
and to agro-industrial sectors*

The FCEL network has about one hundred SMEs and VSEs located throughout the country, which fulfil two major roles:

- **Advising farmers on the technical and economic development of their farms.**
- **Providing the public service of herd recording, which is required for genetic evaluations.**

DAIRY CATTLE



GOATS



BEEF CATTLE





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Some number for the french situation in MRO

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Year	Number of Cow	Number of Breeding	Cow per Breeding	Day in lactation	Milk (Kg) per lactation	Fat g/Kg	Protein g/Kg
1984	2 369 574	69 429	34	280	4 961	38,7	31,1
1990	2 605 540	75 631	34	289	6 165	39,5	31,2
2000	2 757 817	68 911	40	316	7 184	40,6	31,9
2005	2 741 582	62 155	44	324	7 737	39,9	32,3
2009	2 696 694	53 075	50	338	8 109	39,9	32,2
2010	2 629 073	49 831	52	341	8 221	39,9	32,2
2011	2 612 760	48 200	54	338	8 395	39,6	32,5
2012	2 619 979	46 995	55	339	8 561	39,6	32,4
2013	2 674 565	45 302	59	342	8 415	39,6	32,2
2014	2 673 867	43 464	61	340	8 481	39,3	32,3
2015	2 620 102	41 830	62	337	8 518	39,2	32,2
2016	2 510 190	39 057	64	332	8 520	39,5	32,2



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Somes figures for cow situation

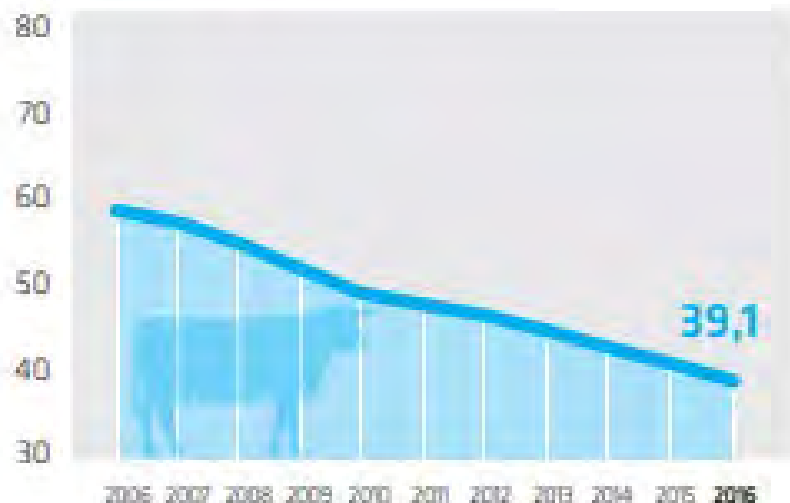


VACHES LAITIÈRES

Vaches laitières (x 1000)
2006 > 2016 : **-7,1 %**



Élevages vaches (x 1000)
2006 > 2016 : **-34,7 %**



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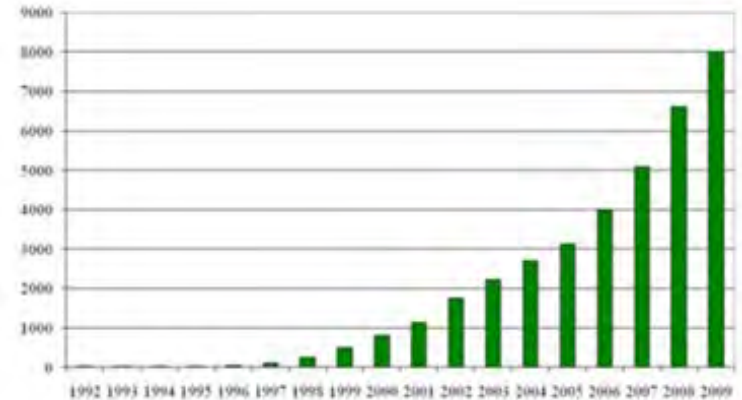


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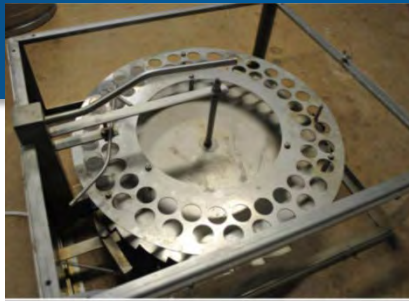


Level of sales for robot

- in 2009 (950 Box)
- in 2010 (1100 Box)



- Issue: Management many samplers ?
Shuttle A, VMX, GEA suitcase,...
- Reliability: a few questions....
- Maintenance: not easy
- Price : No stable and very expensive



- SAYCA, Spanish manufacturer has developed his own sampler. (Dealer for Insentec, 50 robots in Spain)
- **Objective:** develop a sampler device for the robot Insentec
- **Model:** Rotation system very simple
Capacity : 60 samples
Live connection on the receiving vessel
Suitable for Lely, Packo FullWood, Boumatic, Sac





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Test in France on Merlin Robot in August 2011



Test Conclusion:





-  Result is fine
-  Easy to use
-  Few moving parts
-  Weight:

Tableau 2 : poids de quelques échantillonneurs robot

Modèle	Poids (kg)
SAYCA	17,8
Shuttle B, Lely	19,4
Shuttle, Lely	22
Valise Mlone, GEA	24
VMX (+ caisse de transport), Delaval	34,6

New feature of the device

- 90 samplers
- Finish Aluminium (+ light)
- Simple rotary system
- Dosing system(+ precise)
- Manage two types of bottle 30/40 ml
Washable and Disposable
- Compatible RFID
- Weight = 15kg

New device is born



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A new sampler device for all the robot



ORI-COLLECTOR

Made by



SAYCA
INNOVATION IN FARMING



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Design of Ori Collector

- *products thought to work every day: with robustness, low maintenance and simple mechanism to understand.*
- *Accurate samples: [ICAR](#) approved for LELY and DeLaval robots, and IDELE for all the others.*
- *Hundred of systems work around the world on a daily bases non-stop, this lead to continuous improvements of the product due to the frequent feed-back from our users.*
- *One single machine that can be used for all kind of robots, which means less investments and easier logistics.*
- *Very light weight to handle, less than half of the weight that the lightest competitor,*
- *Easy to disassemble for cleaning, and low downtime for maintenance, normally done by the users themselves.*
- *Robustness: only the best and proven materials are used in the production. Individual quality control program is performed in every single unit in our facilities before leaving the factory*



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Some pictures..... of the first Model



Dosing system



Transportation



Conexion



Rotary

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- Lely: A3, A3 Next et A4
 - ✓ Approval by Icar in January 2013

- DeLaval: VMS with Delpro 4.00
 - ✓ Approval by Icar in January 2014

- Hokofarm Group (Insentec, SAC, Happel)
 - ICAR: waiting the agreement
(started in December 2017)





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- Gea: MIOne
 - ICAR test in Stand By
 - ✓ **Approval for France by Idele**
- Fullwood Packo: Merlin
 - ICAR test waiting (Units < 100)
 - ✓ **Approval for France by Idele**
- Boumatic Robotics: MRS1
 - ICAR test waiting (Units < 100)
 - ✓ **Approval for France by Idele**

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ORI-COLLECTOR®



Standart Version

Lely A3, A3next, A4

Fullwood : Merlin

BoumaticRobotics: Mrs1, Mrd1

SAC: FuturLine



Kit DeLaval



DeLaval VMS
Under Delpro 4.00
Without HN



Kit GEA



GEA MIOne



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- DeLaval : VMS
 - Used only with Delpro 4.00
 - Not compatible with HN
 - Same connection of Lely





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GEA:

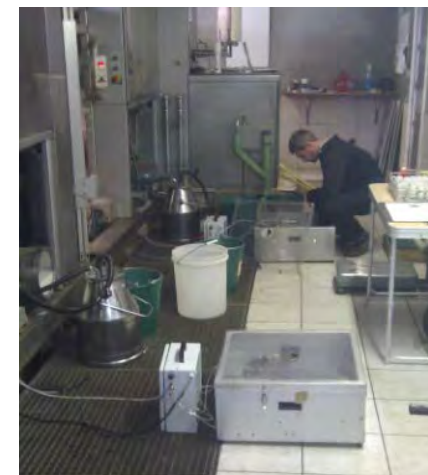
Mlone



Compatible with all version



Same routine of suitcase GEA

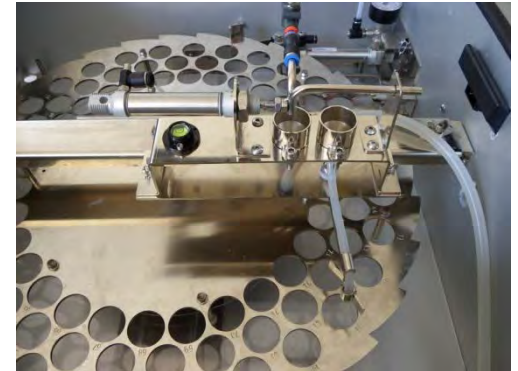




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Kit GEA



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- ❑ 430 used in France for more than 5 years
- ❑ Transport and installation OK
- ❑ Loading Bottle OK
- ❑ Filling and Rotation OK
- ❑ Disassembly OK
- ❑ Cleaning OK





2017 -Export begins: Global market

- Canada +100
- Germany +150
- Spain +50
- USA +50
- Poland, Belgium, Austria, UK, Ireland.
- On Test: Finland, Slovenia, Portugal



- More than 800 Ori-Collector over the world in 5 years
- 80 Kit Gea
- 300 kits DeLaval.



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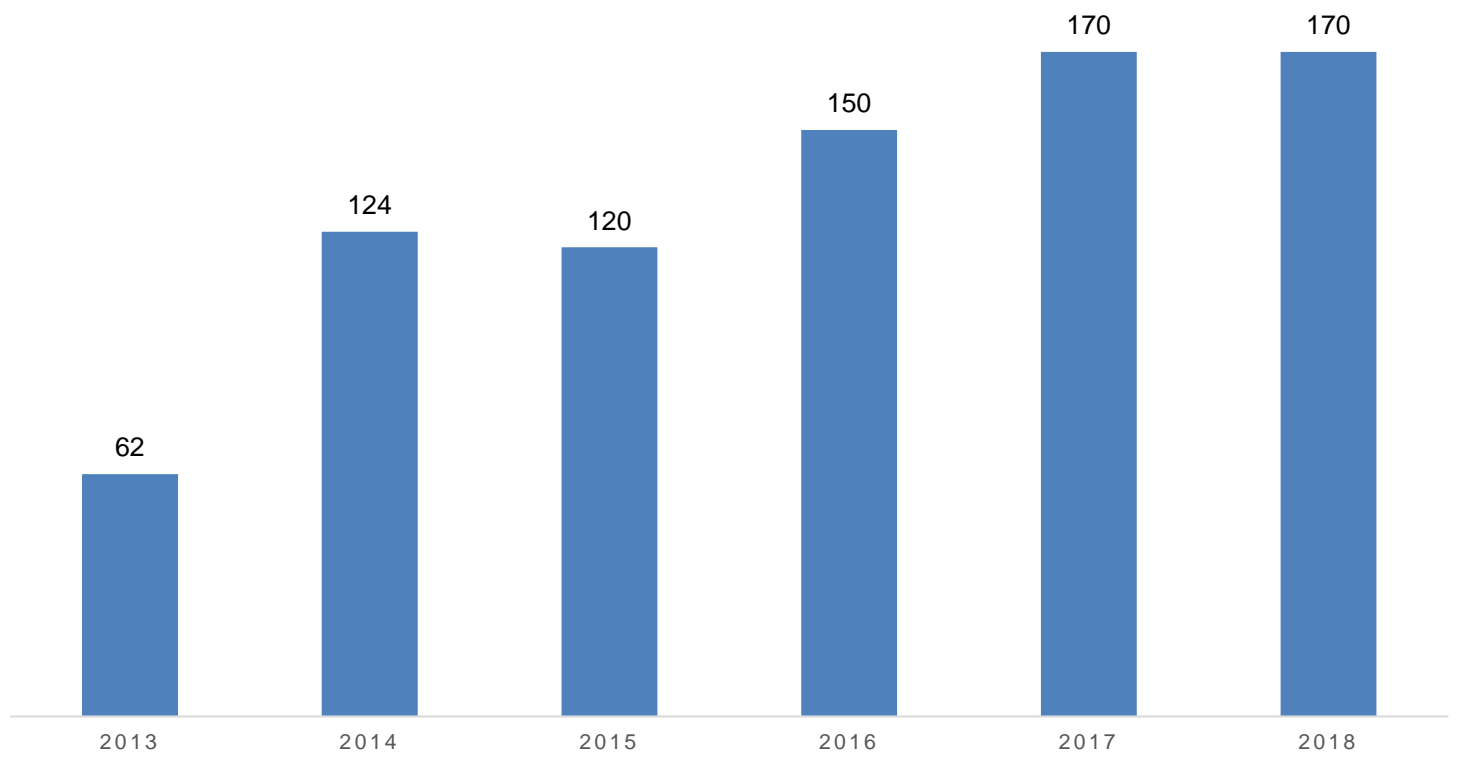
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The sales in the world

SALES EVOLUTION OF ORI COLLECTOR

■ Series1



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- After 2016, a new Generation, with a new Product range, has being developed, for the different needs.
- Line for Sampling Control (Universal type), or for farmers that want to own it.

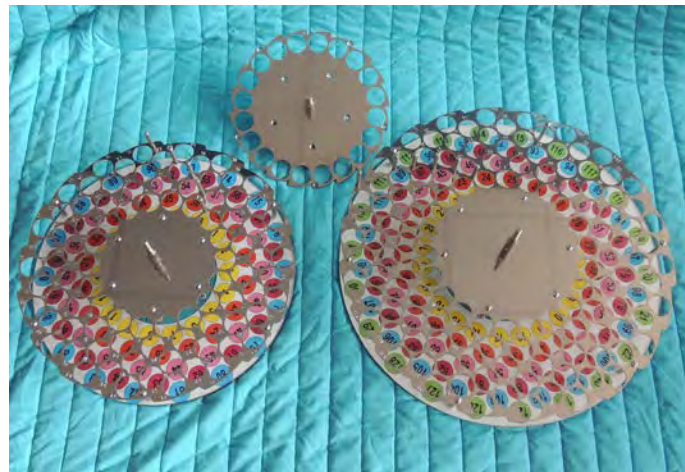




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- New dispenser, new crowns, new tracking system





ORI-COLLECTOR®

Ori-Collector 20 vials: *Designed to stay on the farm and take samples between controls. Also for diseases diagnosis*



It has been designed for universal use:

- **Lely A3, A3next, A4**
- **Fullwood: Merlin**
- **BoumaticRobotics: Mrs1, Mrd1**
- **SAC FutureLine, Happel, Insentec**
- **DeLaval (Need of DeLaval kit)**
- **GEA (Need GEA kit)**



Part Number: ARSD 20 FR

Capacity: 20 vials, Vials used 30/ 40 ml

Drain position: Last position is drain when finished sampling

Materials: Stainless steel and Aluminum

Weight: 9 kg

Dimension: 330x360x285 mm

**The drain position has been improved
and the dosing system has been
simplified**

Ori-Collector 60 vials: *Designed for final users that want to own the sampler and for it to stay at the farm*



ORI-COLLECTOR®

Designed for specific robot brand use (NOT UNIVERSAL):

- **Lely A3, A3next, A4**
- **Fullwood: Merlin**
- **BoumaticRobotics: Mrs1, Mrd1**
- **SAC FutureLine, Happel, Insentec**

Also available for:

- **DeLaval**
- **GEA (Need GEA kit)**



Part Number: ARSD 60LE,/GE,/DL
Capacity: 60 Flacons, Vials used 30 and 40 ml
Drain position: Last position is drain when finished sampling
Materials: Stainless steel/ Aluminum
Weight: 10 kg
Dimension: 425x425x285 mm

The 60 vial Ori-Collector is now available on 3 different colors: red, grey and blue. Other colors can be available on request.

Ori-Collector 90 vials: *Designed for sampling organizations that need only one sample per cow*



ORI-COLLECTOR®



It has been designed for universal use:

- **Lely A3, A3next, A4** 
- **Fullwood: Merlin**
- **BoumaticRobotics: Mrs1, Mrd1**
- **SAC FutureLine, Happel, Insentec**
- **DeLaval (Need of DeLaval kit)** 
- **GEA (Need GEA kit)**



- Part Number: ARSD 90
- Capacity: 90 vials, vials used 30/ 40 ml
- Drain position: Last position is drain when finished sampling
- Materials: Stainless steel and Aluminum
- Weight: 12 kg
- Dimension: 330x360x285 mm
- Optional: Stainless steel box instead of aluminum (19 kg)





ORI-COLLECTOR®

Ori-Collector 132 vials: *Designed for sampling organizations that want to sample at least two milking's per cow*



It has been designed for universal use:

- **Lely A3, A3next, A4**
- **Fullwood: Merlin**
- **BoumaticRobotics: Mrs1, Mrd1**
- **SAC FutureLine, Happel, Insentec**
- **DeLaval (Need of DeLaval kit)**
- **GEA (Need GEA kit)**

Part Number: ARSD 132

Capacity: 132 vials, vials used 30/ 40 ml

Drain position: Last position is drain when finished sampling

Materials: Stainless steel and Aluminum

Weight: 16 kg

Dimension: 570x600x285 mm



Ori-Collector, useful additional kit



ORI-COLLECTOR®

The GEA kit for single robots- This kit is necessary to sample GEA robots

Use in GEA: Mione/Monobox
Weight: 10kg
Dimensions: 300x250x150mm
Components: Stainless Steel



Kit GEA multiple box - This kit can sample two GEA boxes at the same time



Can be used: GEA Mione robots
Weight: 12kg
Dimensions: 300x250x150mm
Components: Stainless Steel

The DeLaval kit- is adaptable to every universal sampler. This is needed for DeLaval robots. You only need to replace the deposit.



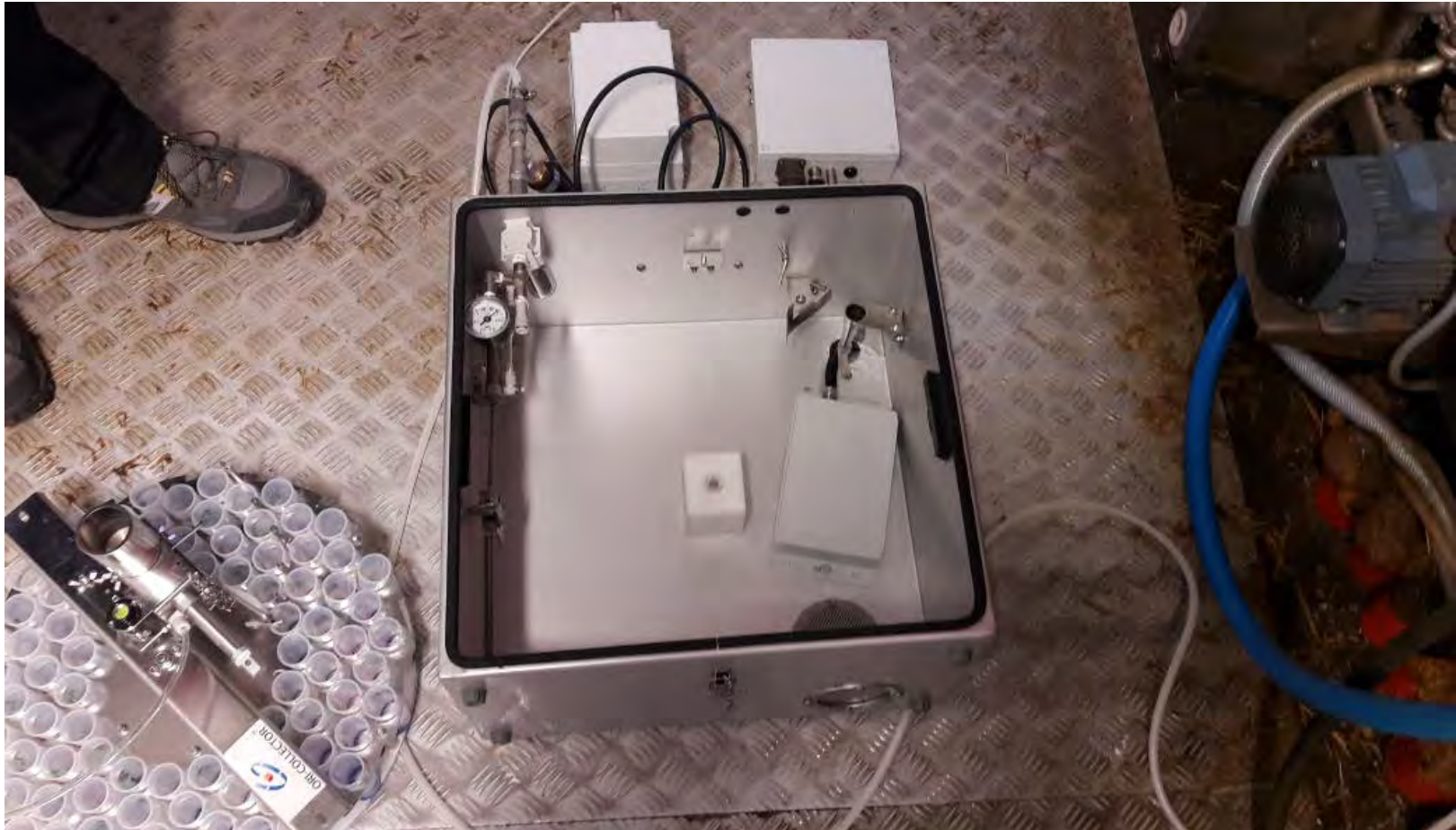
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- Integrated RFID system for more tracability
- **Goal: in one round all the tag are read**
 - Tag used : low and high frequency
 - Power supply : Battery
 - Bluetooth Communication
 - Control the system by mobile phone
 - Information managed
 - Start and end date of the control
 - Information about operator, device used OC, Robot
 - RFID Bottle and filling
- Test in March 2018 in France and Germany

RFID module



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- Ori-Tester: For Testing and Training purposes

- Can emulate de Robot: Mode Lely, DeLaval, and Gea,
- One position and Continuous running options

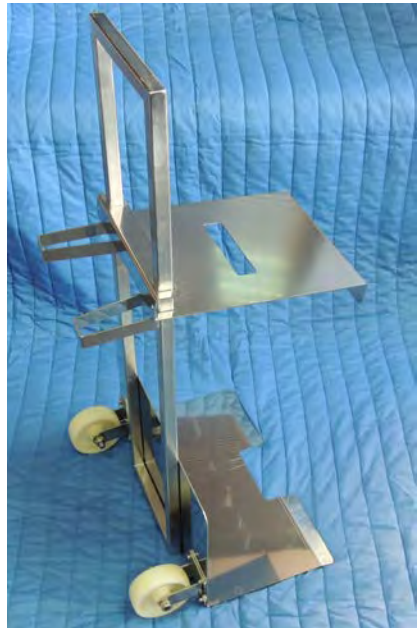




FRANCE
CONSEIL ÉLEVAGE
Donner du sens à la mesure



- **Char for carrying Ori Collector, Useful for the heavier stainless steel.**





FRANCE
CONSEIL ÉLEVAGE
Donner du sens à la mesure



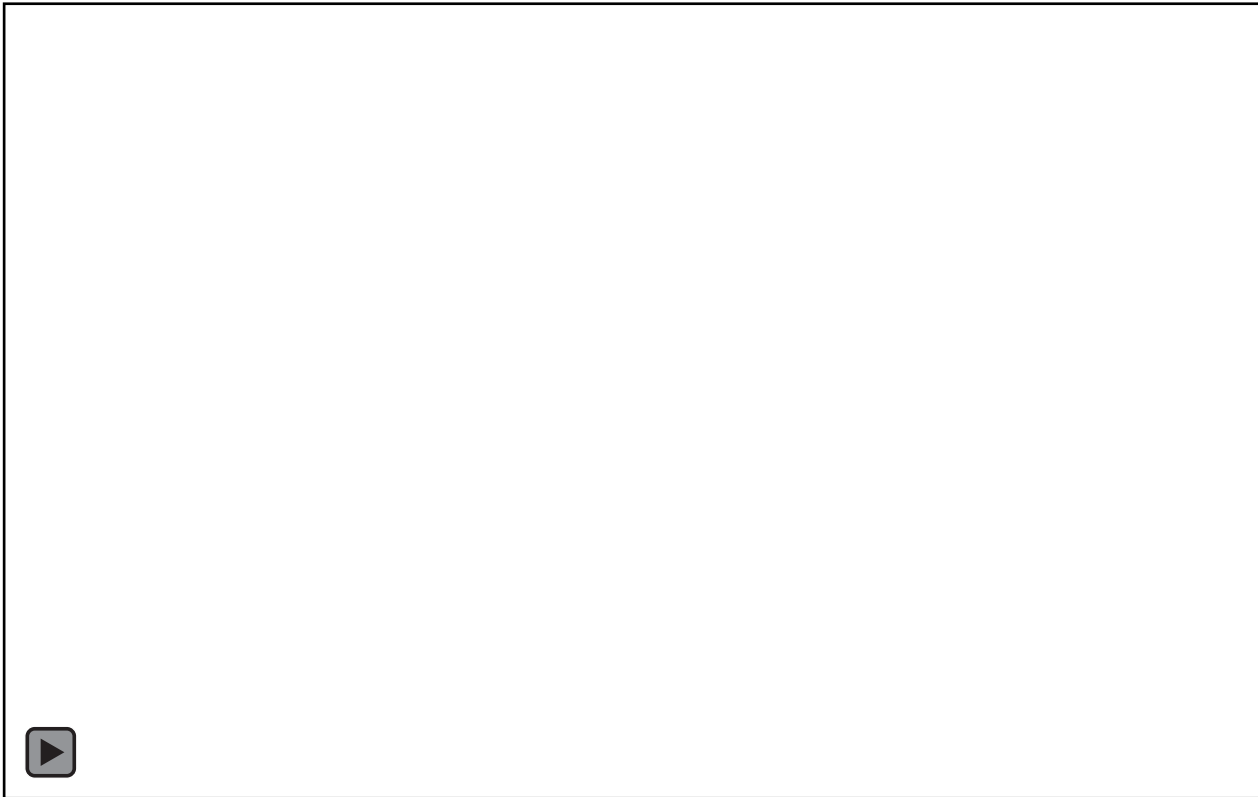
New Projects : Cooler

- **Refrigerator for the Sampler: To keep cool the samples in hot weathers. Microbiological analysis purposes.**
- **Great cooling down power,**
- **24Volts**





- Double crown Sampler: Can Sample two Robots at the same time.
- Ideal for multibox systems, or those that can be placed close to each other.





It's a lot of work....





FRANCE
CONSEIL ÉLEVAGE

Donner du sens à la mesure



Thanks for your attention

2018 National DHIA Annual Meeting

CDCB Update

João Dürr, CDCB CEO

March 6, 2018



2017 PROGRESS REPORT



Genetic Evaluations

- New trait: Gestation Length (Aug 2017)
- Test run for Health Traits (Dec 2017)
- New haplotype: AH2 (Dec 2017)

Systems

- New editing systems and formats (calving ease data, recessive codes, genomic files)
- Fast monthly imputation process
- New edits for animals with unreliable MGS/PGS
- Semi-automation of genotypes processing

Infrastructure (I)

- Security
 - Additional firewalls
 - Company-wise antivirus
 - SFTP protocol for private data transfer
 - IP ban strategy
 - Monitoring connections

Infrastructure (II)

- New domain
- New email system (cloud)
- New phones (new provider)
- New dedicated backup system

WEB Infrastructure

- Separate web/ and ftp servers
- New Website
 - Old query system in new environment
 - New query access + end-user agreement
 - New queries and apps
- Redmine
 - Internal documentation
 - Internal project management

Customer services

- Redmine
 - Enhanced communication and customer support
 - Ticketing system -> +1000 tickets in 4 initial months.
 - Reduced response time to customers (>50%)
 - Enhanced documentation for clients
- Genomic Nominators Workshop

Working Groups

- Dairy Evaluation Review Team (DERT)
- Genetic Evaluation Methods (GEM)
- Promoting Data Quality (PDQ)
- Genomic Laboratory Guidelines Task Force (GenLAB)

Genomic Data QC

Genomic Nominators

- Updated QC guidelines - Dec 2017
- MLA and metrics in place
- SOPs submitted
- Annual Review (in progress)

Genotyping Laboratories

- New QC guidelines - Oct 2017
- MLA and metrics in place
- Pending 2018:
 - SOPs

2017 operations - Communication

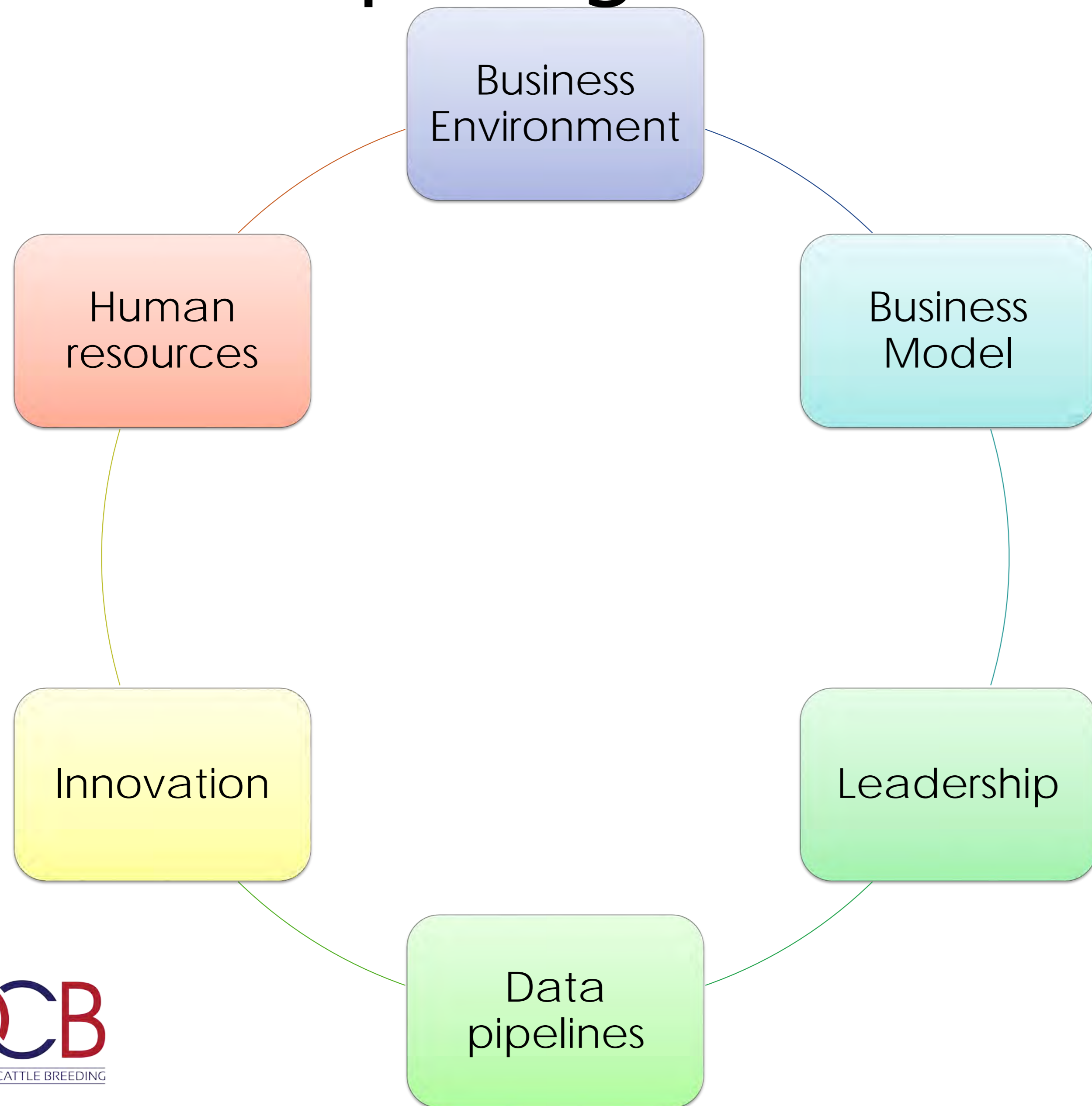
- LOOK EAST (PR consultant)
 - CDCB connection (June 2017 onwards)
 - CDCB Industry meeting 2017 (October 2017)
- Mailing lists (Industry + subgroups)
- CDCB nominator workshop 2017

João Dürr, CDCB CEO

March 6, 2018

2018 GOALS AND OBJECTIVES

2018 – Preparing for 2028



2018 U.S. Dairy Breeding

- Farmer driven
- Collaborative
- Bottom-up
- Dispersed nucleus
- Undisputed
- Independent
- Transparent
- Standardized
- Public R&D

Research & Development

- Support ARS-AGIL revitalization
- CDCB Research Advisory Group
- Including crossbreds in genomic evaluations
- Feed efficiency
- Predictive SNPs update (77K)

Services

- Genomic Data Manager
- Health evaluations
- More tools for QCS
- SNP chip validations
- Additional type genomic evaluations for colored breeds

Improving Infrastructure

- Review protocols for data exchange
- Review file format standards
- Improve genomic edits performance
- R&D dedicated server

New Tools

- All-breed programs implementation
- New web query system
- Evaluation results verification package

Data Flow & Quality

- Chief Data Officer (CDO)
- Alternative data sources
- Genomic laboratories QC review

GENOMIC DATA QC

Annual Review Plan



CDCB Genomic Nominators SOPs

- SOP for collection of animal identification, pedigree information and herd fee status
- SOP for sample collection, identification and submission to genomic laboratory
- SOP for uploading nominations to the CDCB database
- SOP for data conflicts management
- SOP for delivery of CDCB results to requesters

Classification of CDCB's genomic nomination performance metrics according to their impact

Critical	Major	Minor
<ul style="list-style-type: none">• No nomination when loading• Unknown animal ID• IDs with 573/574• Herd code discrepancy• Mismatch in fee code 1 or 2	<ul style="list-style-type: none">• CDCB blanked dams due to conflict• Usability code = N• Fee code = N• Genotype withdrawn• Genotype reassigned	<ul style="list-style-type: none">• Changes in pedigree• Sire pedigree missing• Dam pedigree missing

	Threshold	January 2017	February 2017	March 2017	April 2017	May 2017	June 2017	July 2017	August 2017	September 2017	October 2017
No nomination when loading	1%	0.0%	1.93%	0.35%	0.32%	4.71%	1.72%	0.0%	0.3%	1.34%	0.0%
Unknown animal ID	1%	0.0%	0.97%	0.0%	0.32%	0.45%	0.38%	0.0%	0.0%	0.0%	0.0%
IDs with 573/574	1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Herd code discrepancy	1%	0.0%	0.77%	0.35%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mismatch in fee code 1 or 2	2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CDCB blanked dams due to conflict	2%	0.0%	0.58%	0.0%	0.0%	0.0%	0.38%	0.0%	0.0%	0.22%	0.0%
Usability code = N	5%	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	4.18%	2.42%	1.34%	0.0%
Fee code = N	1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.38%	0.0%	0.3%	0.0%	0.0%
Genotype withdrawn	1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.76%	1.49%	3.32%	0.45%	0.0%

Genomic Laboratories QC Guidelines

- CDCB Genomic Laboratory “ring test” strategy
- Requirement of ISO (or similar) certification for genomic laboratories
 - 4 years tolerance
- One-time CDCB certification laboratory fee
- QC metrics

TAKE HOME MESSAGES

CDCB Take Home

- Palpable progress as the CDCB team matures
- Ambitious expectations
- Industry collaboration more needed than ever

CDCB Take Home

- Dairy industry business environment is changing rapidly.
 - Would our business models still be relevant in the new environment?
 - How are we securing innovation?
 - Is the future leadership part of the conversation?
 - New players: can we afford NOT to work with (for) them?

Effective collaboration is built over trust and shared visions, and success requires willingness to face challenges and competence to innovate.

Thank You!
www.uscdcb.com

Recording and Sampling Device Update

Field Service Advisory Committee
March 6, 2018

Steven Sievert

Manager, Quality Certification Services Inc.

Technical Director, National DHIA

Chair, ICAR Subcommittee for Recording and Sampling Devices



THE GLOBAL STANDARD
FOR LIVESTOCK DATA

Network. Guidelines. Certification.

ICAR Carry-over Testing

Testing for Carryover in Recording & Sampling Devices

- Recording & Sampling Devices SC commissioned study to develop a 'standard' and 'reproducible' method
- Comparison of alternative methods for determination
- Experimentation and procedure validation under way

Carryover in DHI Portable Meters

Auto Sampler



2ml in 25-30ml
sample vial

**Min. carryover
estimate – 8-12%**

**Cannot change as it
is a design issue**

2ml in 80ml sample vial

**Min. carryover estimate – 6-
8%**

**Using the same large sample
cup introduces additional
carryover potential**



Pull-Out Meter Flask

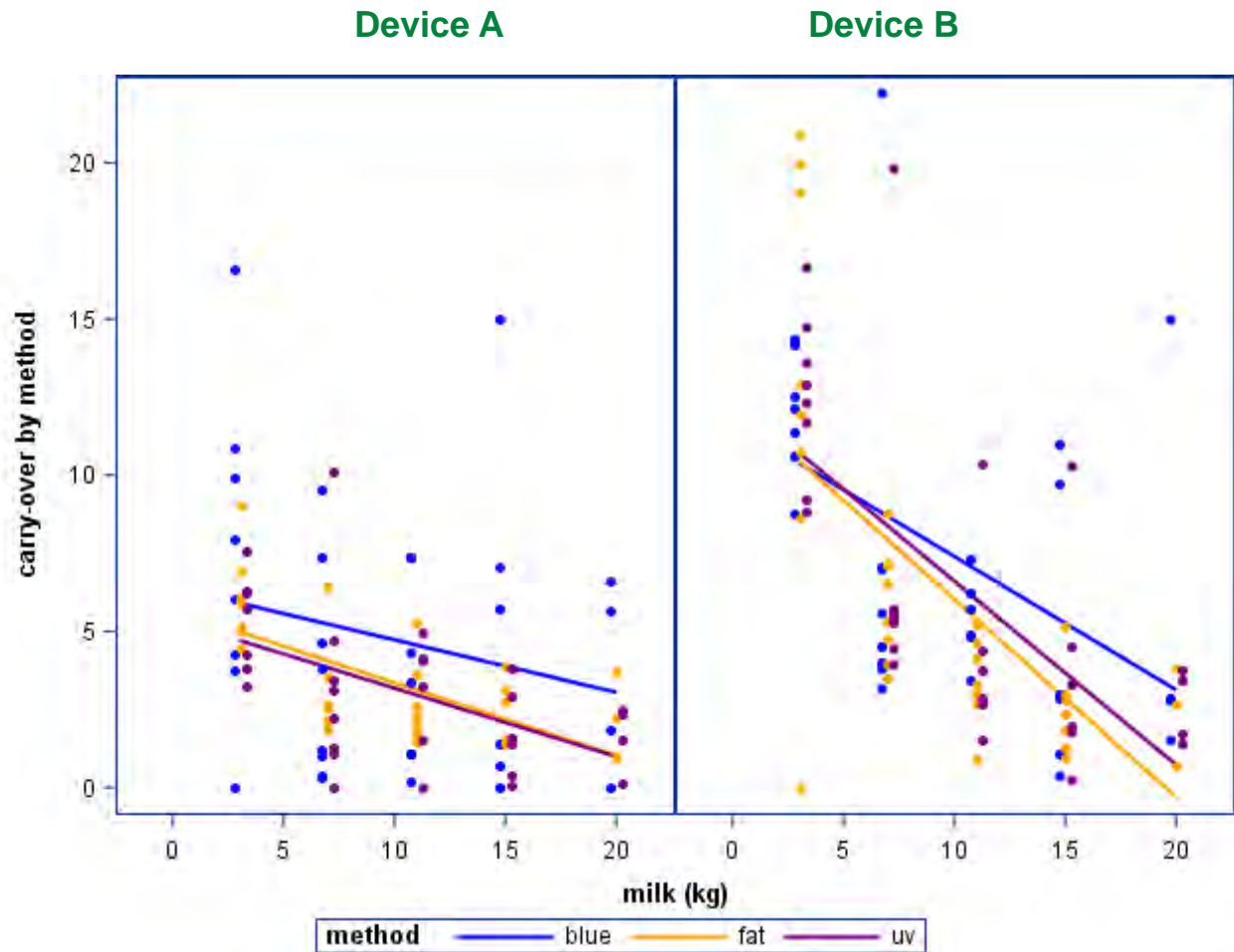


1.5 lbs. milk remaining in flask
Subsequent cow yield of 40lb (18.1kg)

Min. carryover estimate – 3.8%

**Potential to reduce with improving field tech
procedures**

Initial Results from Comparison of Carry-Over Determination Methods



Initial Results from Comparison of Carry-Over Determination Methods

- Carry-over varies between type of device and within a specific devices
- Operational techniques vary between milk recording technicians
- Carry-over is dependent on milk volume but not uniform in its dependency
- Carry-over in AMS more variable due to design, maintenance, and sampling tray

Goals and Next Steps of the RSD-SC on Carry-Over Testing

- ICAR Test Centre workshop to review procedures and determine a standard protocol for carry-over determination
- There would not be specific ICAR guidelines for carry-over level in devices but levels will be reported
- Development of best practices for device usability for milk sampling for specific tests
- DHI organizations must reinforce proper sampling procedures as these are only minimal estimates of carry-over

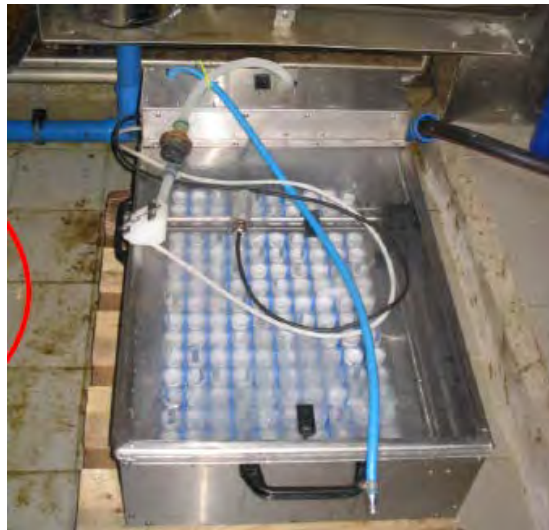
AMS (Robotic) & Sampling Shuttles



- MR-S1
- MR-D1
- Not ICAR-approved with any sampling shuttle
- The Ori-Collector is not an option with any Boumatic Milking Robot



- DeLaval VMS (original)
 - DeLaval VMS 2007
 - DeLaval VMS 2010
 - DeLaval VMS 2013
 - **DeLaval VMS 2018 (new)**
-
- DeLaval has two sampling trays – VMX and VMX7
-
- **VMX7 sampling tray will work with DeLaval 2018 but not approved**
-
- **Changes in VMS in US (DeLaval response to FDA) have raised concerns – ICAR and NDHIA are reviewing at present time**





- **Galaxy Astrea 20.20 Premium**
- **SAC Futureline Max**
- **System Happel 2020**

- **ICAR test just completed with Ori-Collector and Shuttle XY**

- **ICAR-certification will be coming very soon**





- **Galaxy Astrea 20.20 Premium will be the certified AMS for DHI**
- **Dairyman will have to purchase a kit to convert the 20.20 Elite to the 20.20 Premium**
- **More information to be sent in the next 60-90 days**



MIOne AMS

- Must use the MIOne sampler
- **The Ori-Collector is not certified (failed ICAR test) to work with the MIOne**





Monobox AMS

- **The Monobox is not ICAR-certified – currently working with GEA on testing and approval – test to begin in spring 2018 with GEA MIOne Sampler**
- **The Ori-Collector has not been tested with the Monobox**





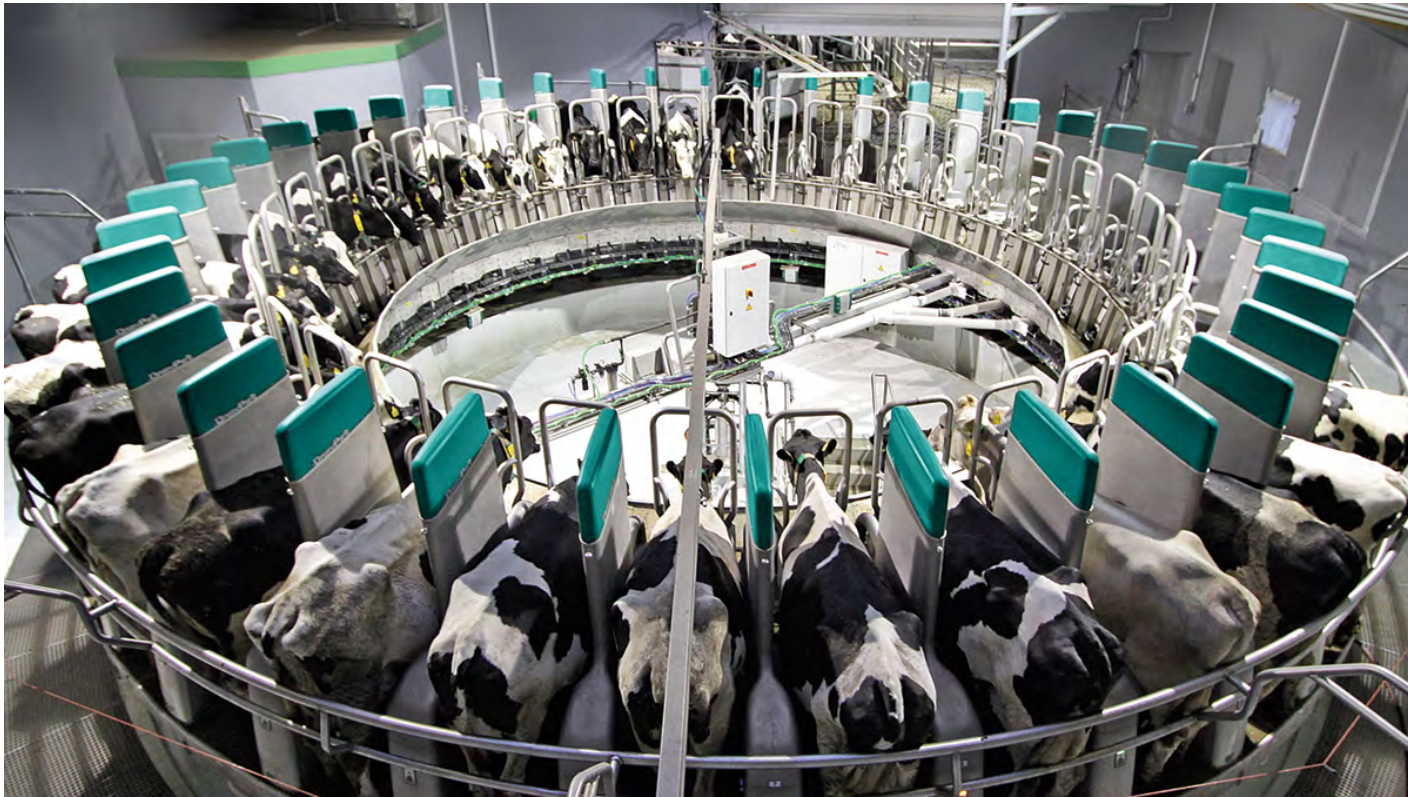
Challenges with Monobox AMS

- The Monobox uses 4 Lactoflow sensors for quarter milk flows and 1 Metatron meter for official DHI milk weight.
- Treated or fresh cows are diverted before the Metatron meter and do not receive an official DHI milk weight or sample.



Challenges with Monobox AMS

- Sensors that detect abnormal milk from a quarter will divert that milk prior to the Metatron meter (similar to handling of treated cows).
- Resulting milk yield will be incomplete (possibly missing milk from one or more quarters in total milk yield).



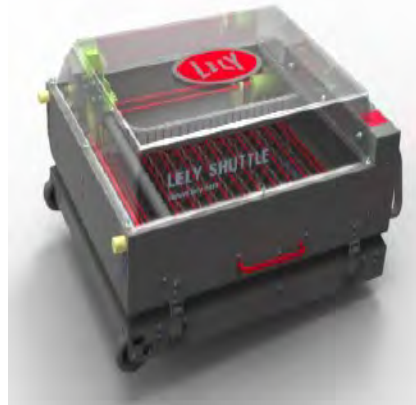
Dairy ProQ

GEA

- **Modified GEA/Westfalia Sampler that is not certified with same software as Monobox**
- **Working with GEA on testing and certification – access to installations, sampler certification, PCB changes all have impact on process**



— innovators in agriculture —



- **Certified AMS Models**
 - **Astronaut/Astronaut A2**
 - **Astronaut A3/A3 Next**
 - **Astronaut A4**
- **Certified Shuttles**
 - **Not all shuttles are certified with all Lely AMS Models**
 - **Lely Shuttle A**
 - **Lely Shuttle XY**
 - **Ori-Collector**
- **Modifications required to use Shuttle XY**



— innovators in agriculture —

Shuttle XY

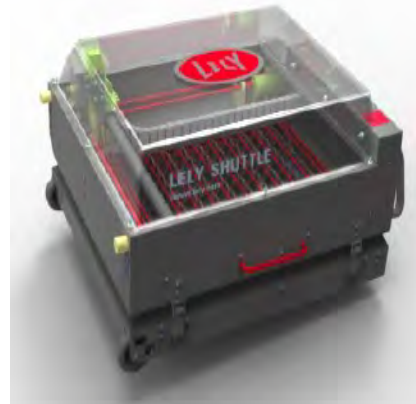


- **Used in Netherlands, Belgium & Luxembourg**
- **Does not come with sample tray or ability to rack vials**
- **CRV developed tray with QLIP to meet their needs**
- **Not a working solution for North America presently**
- **National DHIA is planning to meet with Lely NA to review**
- **RSD-SC (Steve) will meet (again) with Lely International**



— innovators in agriculture —

- **Currently testing new AMS from Lely**
- **Will be tested with Shuttle XY and Ori-Collector shuttles**
- **Pre-test results look promising**
- **When Ori-Collector is ICAR-certified with the new Lely system, National DHIA/QCS will sent notice to all affiliates**





- **Ori-Collector Sampling Shuttle**
- **5 models – 20, 60, 90, 132, Double Crown**
- **Advantages**
 - **Lightweight**
 - **Larger Vial Capacity than Shuttle A**
 - **Ori-Collector 90 certified for Lely A3, A3 Next, and A4**
 - **Soon to be certified with Galaxy**
 - **Requires adapter kit and Delpro 4.5 or higher for DeLaval VMS**
- **Disadvantages**
 - **Failed ICAR test for MIOne AMS**
 - **Never tested nor certified with Boumatic or Fullwood**

	Lely A	Nordic B	Lely XY	DeLaval VMX	DeLaval VMX7	GEA MI One	Ori-20	Ori-60	Ori-90	Ori-132	Ori-72+70
Lely A1	YES	NOT APPROVED	NOT APPROVED				NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED
Lely A2	YES	NOT APPROVED	NOT APPROVED				NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED
Lely A3	NOT APPROVED	UNDER TEST – FALL 2017	YES				NOT APPROVED	NOT APPROVED	YES	NOT APPROVED	NOT APPROVED
Lely A3 Next	NOT APPROVED	UNDER TEST – FALL 2017	YES				NOT APPROVED	NOT APPROVED	YES	NOT APPROVED	NOT APPROVED
Lely A4	NOT APPROVED	UNDER TEST – FALL 2017	YES				NOT APPROVED	NOT APPROVED	YES	NOT APPROVED	NOT APPROVED
Lely (NEW)			UNDER TEST – FALL 2017								
DeLaval VMS				YES			NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED
DeLaval VMS 2007				YES	YES		NOT APPROVED	NOT APPROVED	YES	NOT APPROVED	NOT APPROVED
DeLaval VMS 2010					YES		NOT APPROVED	NOT APPROVED	YES	NOT APPROVED	NOT APPROVED
DeLaval VMS 2013					YES		NOT APPROVED	NOT APPROVED	YES	NOT APPROVED	NOT APPROVED
DeLaval VMS 2018					UNDER TEST – FALL 2017						
Boumatic MR-S1	NOT APPROVED	NOT APPROVED	NOT APPROVED				NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED
Boumatic MR-D1	NOT APPROVED	NOT APPROVED	NOT APPROVED				NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED
Galaxy/Astrea 20.20	NOT APPROVED	NOT APPROVED	UNDER TEST – EARLY 2018				NOT APPROVED	NOT APPROVED	UNDER TEST – EARLY 2018	NOT APPROVED	NOT APPROVED
GEA MIOne						YES	NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED
GEA Monobox						UNDER TEST – EARLY 2018	NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED
GEA Dairy ProQ						UNDER TEST – MID 2018	NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED	NOT APPROVED

Fixed In-Place Electronic Meters & Samplers

afimilk[®]

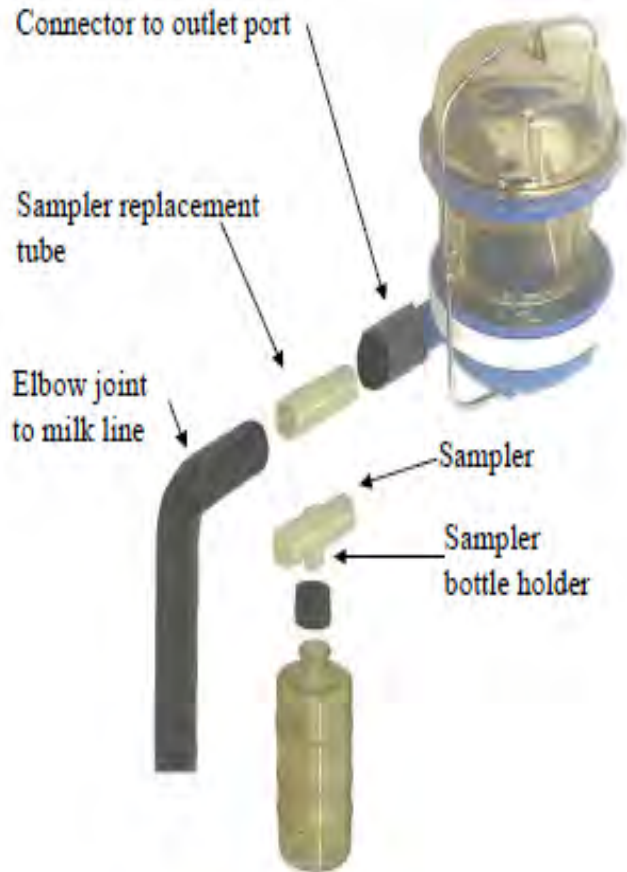
The Heart of the Dairy Farm



- **Approved Models**
 - **Afiflo 2000**
 - **Afiflo 9000**
 - **Full Flow (MM 85/MM95)**
 - **Afilite (Germania's Essential)**
 - **Afi 155 & 155i (Sheep & Goat)**
- **Low-line installation only today**
- **High-line certification this spring**
- **Must Use Afikim Sampler**
- **There is no meter performance report available— must interface with DC305 or PCDART for EMMR**
- **Possible report available at dealer level – QCS is investigating options**

afimilk®

The Heart of the Dairy Farm



- **The Afi 2x Sampler is only certified for use with Afikim meters.**
- **Cannot be used with GEA Metatron, Boumatic Perfection, or DeLaval meters**
- **Decoupled systems have not been tested and are not certified**
- **Issues**
 - **Biased results**
 - **Sampler flooding with other meters**
 - **Foaming and flooding with vented inflations (impulseAir, Conewango)**



- **The Ambic sampler is not certified for DHI programs under any conditions.**
- **It has never been ICAR tested**
- **Appears to be a negative bias for fat in limited testing**
- **The challenge is the local milking equipment dealers are selling this sampler with on-farm meters instead of the higher-priced ICAR-certified sampler for the respective meter model**



- The Beco Scan Nexus is not approved for recording of milk weights in DHI programs
- Is not ICAR-certified
- It cannot be ICAR tested as they do not have a sampler of their own
- Option to use another manufacturer's sampler but BECO is not willing to invest in testing and certification at this time



- **Precision/Precision XL National DHIA approved but was never ICAR tested.**
- **Also known as Model M/M+**
- **Must use the Boumatic Precision Sampler**
- **Service manual, troubleshooting guides, and calibration instructions are available from QCS.**



AMI 5450/5550



- Automatic Milk Indicator
- Not ICAR tested/certified
- Will not pass ICAR test
- There is no sampler for the system – cannot use another sampler like the Afi 2X sampler
- Cannot be used for DHI programs



Perfection 3000

- **Must use Boumatic Perfection Sampler with the meter**
- **Some components are no longer available – will have to be retested in near future**
- **New calibration module in software (AQUA) is causing concerns about meters reading low – ICAR is reviewing**
- **Service manual, troubleshooting guides, and calibration instructions are available from QCS.**





SmartControl Meter

- ICAR-certified
- Must use the Boumatic Perfection Sampler
- **Must retrofit deflector/upgrade software – still not completed in some areas (CA, CO, New England)**
- **Fat is underestimated with old deflector**



DIAMOND S RANCH INC.

MLKG NO. IS 1

18 FEB 09

3:58 PM

ProVantage Prime

Stl	Cows	P/E	Prod	Exp	Time	#Cnd	C/AC	Cond	AvgC	MDet	MMod	RCtr	F120	Data	CIP
1	38	103	38	37	5	37	98	5.9	6.0	0	2	0	7	0	141
2	38	99	38	38	5	38	108	6.7	6.2	0	1	0	10	0	126
3	37	104	38	36	5	36	112	6.9	6.1	1	2	0	8	0	118
4	37	103	37	36	5	36	104	6.4	6.1	0	2	0	9	0	128
5	36	103	39	37	5	36	82	5.0	6.1	0	1	0	8	0	118
6	35	97	36	37	5	35	106	6.4	6.0	1	2	1	8	0	100
7	35	105	38	36	5	34	108	6.6	6.0	1	2	2	8	0	119
8	36	101	36	36	5	36	113	6.7	5.9	0	2	0	8	0	116
9	36	98	37	38	5	35	81	5.1	6.2	0	1	0	8	0	140
10	36	99	38	38	5	36	103	6.3	6.1	0	1	0	8	0	148
11	35	96	38	39	6	35	99	6.2	6.2	0	3	1	8	0	130
12	34	101	39	39	5	33	107	6.8	6.4	0	2	0	7	0	121
13	39	99	36	37	5	38	102	6.4	6.2	0	3	0	8	0	110
14	39	107	37	35	5	38	108	6.6	6.1	2	2	5	8	0	109
15	39	105	38	36	5	38	101	6.1	6.0	0	2	1	8	0	109
16	38	92	35	38	5	38	98	6.0	6.1	0	2	0	7	0	116
17	36	102	37	36	5	35	106	6.6	6.2	0	3	0	8	0	111
1	35	100	37	37	5	34	112	7.2	6.4	0	1	0	8	1	104
19	35	106	37	34	5	35	104	6.6	6.4	1	1	1	8	0	107
20	36	101	36	35	5	35	90	5.5	6.1	1	1	2	7	0	109
21	36	107	41	39	5	36	111	6.8	6.1	0	1	0	9	0	107
22	34	96	34	36	5	33	105	6.7	6.3	2	2	2	9	1	110
23	34	98	39	40	5	34	105	6.5	6.2	0	0	0	9	1	109
24	32	99	38	39	5	32	110	6.9	6.3	0	1	0	9	1	105



SmartDairy

Report On
 Most Recent Shift:
 2013-01-15 06:45
 In Parlor SJ Martin

Select Shift(s) ...

Available Reports	Description
Tables	Tabular Par
Lot Summary Report	3 Tables of a M
Stall Summary Report	Table of Milk St
Scheduled Cow Sorts Report	Table of comple
Unassigned Cow Tags Report	Table of Cow T.
Cows Milked in Wrong Lot Report	Table of data f
Attaches by Zone Report	Table of Attach
Attaches by Parlor Report	Table of Attach
Reattach Events Report	Table of Re-att
Milking Shift Report	Table of basic c
Cows Expected but Not Read Report	Table of Cows f
Milking Summary Report	Table of 1-line s
All Cows Report	Table of Cows r
Classic Activity Report	Table of Classic
Weekly Production Report	Table of Weekly
Stall Diagnostic Report	Table of Stall Di

SmartDairy

Stall Summary Report
ROTARYBARN
 START:2014-05-01 10:05 - STOP:2014-05-01 16:52

STALL	MILK	TOTAL LBS	AVG COND	MANU. MODE	MANUAL DETACH	REATTACH	AVG LBS / MIN 60 120	MAX LBS / MIN 60 120	% OF XPCTD	MIN ATT'D	# WASH DUMPS
1	39	1690.4	6.8	2	7	0	11.7	19.0	101	5.3	131
2	40	1796.8	7.0	1	5	2	12.2	26.0	100	5.2	136
3	40	1808.6	6.9	1	7	7	12.5	29.0	106	5.3	140
4	38	1714.0	6.6	5	10	2	10.5	20.0	101	5.8	79
5	39	1737.8	7.1	4	8	4	12.4	22.0	102	5.2	138
6	40	1738.3	0.0	6	10	10	12.3	24.0	104	5.3	134
7	40	1874.4	7.1	1	4	2	12.3	21.0	106	5.4	139
8	38	1732.4	6.5	1	8	8	11.9	24.0	110	5.5	133
9	36	1671.0	7.1	2	14	9	13.1	24.0	102	5.2	141
10	39	1703.5	5.3	0	3	0	13.3	24.0	102	5.1	149
11	39	1782.0	7.3	3	7	2	11.1	25.0	103	5.7	134
12	39	1726.5	7.0	6	6	7	12.7	21.0	98	5.5	143
13	37	1605.7	7.2	4	8	2	10.0	19.0	99	5.7	154
14	38	1621.7	6.8	2	4	3	11.0	19.0	99	5.4	136
15	40	1864.0	6.9	2	4	2	11.7	25.0	103	5.5	145
16	39	1755.5	7.2	1	6	2	12.4	24.0	107	5.5	140
17	40	1783.4	0.0	0	2	4	11.9	22.0	104	5.3	134
18	38	1726.0	4.0	2	3	2	12.4	24.0	101	5.6	143
19	39	1730.0	4.1	3	5	5	11.3	17.0	101	5.4	150
20	40	1886.3	6.9	2	5	6	13.6	22.0	105	5.2	147
21	38	1674.7	6.0	3	3	4	12.4	25.0	100	5.2	147
22	38	1739.6	0.0	8	18	15	12.1	21.0	110	5.7	144
23	40	1887.6	6.9	0	6	6	14.9	22.0	113	4.8	169
24	40	1561.0	7.1	3	4	3	11.2	19.0	96	5.1	164
25	39	1765.5	7.0	2	7	3	11.1	17.0	101	6.0	163
26	40	1980.3	6.8	4	6	3	12.8	22.0	110	5.7	132
27	38	1616.3	0.0	1	5	5	11.1	21.0	102	5.8	132
28	37	1613.7	7.3	3	4	2	12.4	22.0	101	5.4	135
29	37	1586.9	6.4	3	6	3	11.7	24.0	101	5.6	141
30	39	1726.6	7.1	1	2	2	13.0	22.0	103	5.3	133

reported: 2014-05-15 10:24

© BouMatic



Quality Certification Services Inc.



CURRENT WEIGHALL MILK METER & MILK METER CONTROLLER WITH ICAR APPROVAL.



Weighall Milk Meter

- Both high line and low-line installations are certified at this time
- No meter performance report in current DairyMaster Milk Manager software
- DairyMaster changed the dump cycle in software – affects accuracy of meter
- Weighall meter will be decertified if DairyMaster does not retest it in a timely fashion



- **Challenges with the Dairymaster subsampler**
- **Mixing of milk is crucial before sampling due to shape of sampler**
 - **10 seconds mixing time**
 - **Complete drainage of sampler**
- **Failure to properly mix subsample can result in overestimating milk fat and SCC values**
- **High carryover potential if sampler is not emptied**



Swiftflo Commander

WEIGHALL MILK METER & NEW SWIFFLO
COMMANDER TOUCH CONTROLLER



- Uses old Weighall meter with a new controller
- **Not ICAR-certified**
- **RSD-SC is taking strong action**



Milk Flow Sensor and Swiftflo Commander

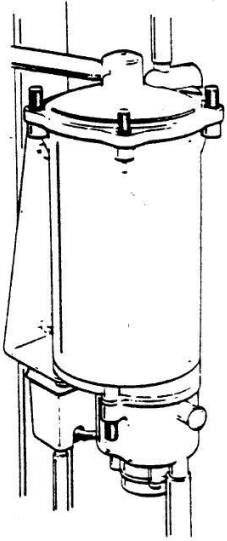
MILK FLOW SENSOR & NEW SWIFFLO COMMANDER TOUCH CONTROLLER



- **The combination of the new flow sensor and Swiftflo Commander panel is not ICAR-certified**
- **Will not pass ICAR testing with current technology**



- **Approved Models**
 - **Flomaster**
 - **SG (Sheep & Goat)**
 - **MM15 (Flomaster Pro)**
 - **MM25/MM25W/MM27BC**
 - **Delpro MU480/MU486**
- **Must use proper DeLaval sampler for each model**
- **All meters are low-line except for Delpro MU480/MU486**
- **New meter calibration functionality in Delpro software for MM25/MM27BC**





- **Unapproved models – these are flow indicators (FI) that are only in the 5-8% accuracy range**



FI 2



FI 5



MM15 (Flomaster Meter)

- **Must use the correct sampler**
- **Fill and dump meter**
- **Calibration instructions and troubleshooting guides available from QCS**



MM25/MM27BC

- Must use the correct sampler
- Continuous flow sensor meter from SCR that uses combination of infrared and white light
- Reported issues with vented inflations
- Calibration instructions and troubleshooting guides available from QCS



Alpro/Delpro Report for Calibration of MM25/27 Meters

- Can be calibrated every month
- Uses milk shipped weight info
- New bias values are entered into meter (automatic in latest Delpro software)

MPC Parlour Pos	Relative Yield	Current BIAS	New BIAS	MPC Parlour Pos	Relative Yield	Current BIAS	New BIAS
1	97.16	1000	1029	21	97.87	1000	1021
2	97.43	1000	1026	22	99.39	1000	1006
3	98.57	1000	1014	23	98.73	1000	1012
4	100.00	1000	1000	24	98.48	1000	1015
5	98.17	1000	1018	25	97.63	1000	1024
6	98.42	1000	1016	26	98.80	1000	1012
7	98.49	1000	1015	27	98.79	1000	1012
8	99.78	1000	1002	28	97.61	1000	1024
9	97.86	1000	1021	29	99.23	1000	1007
10	99.50	1000	1005	30	97.88	1000	1021
11	98.08	1000	1019	31	99.02	1000	1009
12	98.71	1000	1013	32	98.25	1000	1017
13	98.85	1000	1011	33	98.66	1000	1013
14	96.90	1000	1031	34	99.12	1000	1008
15	96.89	1000	1032	35	98.50	1000	1015
16	96.07	1000	1040	36	97.99	1000	1020
17	97.59	1000	1024	37	98.80	1000	1012
18	98.77	1000	1012	38	98.77	1000	1012
19	98.31	1000	1017	39	97.36	1000	1027
20	98.84	1000	1011	40	98.69	1000	1013



- **The E-Z Sampler is not approved for DHI programs under any conditions.**
- **Is not ICAR approved**
- **The challenge is the local milking equipment dealers are selling this sampler with on-farm meters instead of higher-priced ICAR approved sampler for the respective meter model**

Set-Up	# Cows	BF MD	BF SD	Protein MD	Protein SD	SCC MD	SCC SD
EZ Sampler before Boumatic Meter	167	+0.06	0.152	-0.04	0.082	+58	69
EZ Sampler behind Boumatic Meter (proper setup)	86	+0.18	0.368	-0.06	0.047	+121	127



Metatron Meter



- Certified Controller Combinations
 - Metatron 12
 - S21/P21
 - Dematron 70
 - Dematron 75
- Low-Line Installation
- High-Line Installation Now ICAR-certified
- Must Use GEA/Westfalia Sampler
- Reports of Sampler Flooding with Higher Milk Flow Rates or Vented Inflations – ICAR investigating



Metatron Meter Report

DairyPlan DPList 5.212.022 NO10C108 BOS 4

1-02-09 6:45

Meter	Number Weights	No Cow#	Cow# Hand	Cow# Auto	Auto %	----Averages----		%Dev	Total Milk
						Milk	Time		
54	47	0	0	47	100	27.11	5.0	0	1274
55	46	0	0	46	100	27.79	5.1	1	1278
56	47	0	0	47	100	31.78	5.1	9	1494
57	45	0	0	45	100	27.42	5.1	-5	1234
58	47	0	0	47	100	28.78	5.1	7	1352
59	46	0	0	46	100	26.76	4.8	-3	1231
60	46	0	0	46	100	26.96	4.8	-2	1240
61	47	1	0	46	100	25.81	5.0	-0	1213
62	47	0	0	47	100	24.92	4.8	-6	1171
63	47	1	0	46	100	28.43	5.0	3	1336
64	46	0	0	46	100	28.17	4.8	4	1296
65	46	0	0	46	100	25.97	5.0	-5	1195
66	46	0	0	46	100	26.98	5.0	-1	1241
67	46	0	0	46	100	26.73	4.9	-7	1230
68	45	0	0	45	100	26.49	5.0	-3	1192
69	47	0	0	47	100	28.53	5.0	2	1341
70	46	0	0	46	100	27.88	5.1	-1	1283
71	45	0	0	45	100	25.84	4.9	-0	1163
72	46	0	0	46	100	26.23	5.0	-3	1206
	3302	8		3294	100	26.67	4.9	-1	88060

NO QUALIFYING DATA TO PRINT

0 Cows identified more than once

0 Unknown responders

Metatron yield analysis

At the end of the milking session, the Metatron yield analysis gives an overview of the key figures for the milking session.

An identification statistic (A) gives an idea of the quality of automatic identification. Milk quantities without identification are not included in this because the causes are too numerous.

In this example, the percentage deviation (B) of the amount milk obtained from the amount of milk expected shows a negative trend in the herd.

If individual Metatron units show two-figure deviations over several days, this points to a fault.

Metatron Performance Analysis

Last Milking date and time
4-04-05 3:39 - 7:27

Number	NO	Cows	Cows	Auto	Average		Dev	Total	
Meter	Weights	Cow#	Hand	Auto	Milk	Time	%	MILK	
1	14	0	0	14	100	13.05	5.4	-2	183
2	14	0	0	14	100	14.52	6.3	2	203
3	14	1	0	13	100	13.88	6.7	-1	194
4	13	0	0	13	100	12.98	5.8	0	170
5	13	1	0	12	100	13.08	5.9	-2	170
6	13	0	0	13	100	13.88	7.2	1	181
7	13	1	0	12	100	14.32	5.4	10	186
8	13	0	0	13	100	12.88	6.7	-2	167
9	13	1	0	12	100	12.38	6.0	-4	161
10	13	0	0	13	100	13.35	6.5	-1	174
11	13	0	0	13	100	15.73	6.1	8	205
12	13	0	0	13	100	12.48	6.5	1	162
13	13	0	0	13	100	13.28	6.5	-0	173
14	13	0	0	13	100	12.58	5.8	-3	164
15	13	0	0	13	100	13.43	6.3	0	175
16	13	0	0	13	100	14.92	7.0	2	194
17	13	0	0	13	100	12.25	6.1	1	159
18	13	1	0	12	100	13.29	6.1	0	173
19	13	0	0	13	100	11.66	5.7	-4	152
20	13	0	0	13	100	13.92	6.9	0	181
21	13	0	0	13	100	13.05	6.4	-0	170
22	14	0	0	14	100	12.39	6.6	-4	173
290		5		285	100	13.33	6.3	B	3688

NO QUALIFYING DATA TO PRINT

0 Cows identified more than once

0 Unknown responders

The results of previous milking sessions can also be displayed by shifting the visible section of the window.



Metatron Meter Report

milkrite | InterPuls

MMV Meter

- **Certified Controller Combinations**
 - **iMilk 600+**
 - **ACR Smart**
- **Low-Line Installation is ICAR-certified**
- **High-Line will be tested in 2018**
- **Software designed with multiple algorithms to compensate for vented inflations**





PRECISE DAIRY FARMING



- **Uncertified Sensor from SCR**
 - **FFS 30 Sensor**
 - **ED 200 Display**
 - **MC 200 Controller**
- **FFS 30 is same as DeLaval FI 5**
- **SCR has not tested or applied for ICAR testing/certified**
- **Cannot be used for DHI programs**



**Green
15 gram
Nozzles
for
WB meters**

- **Manufacturing defect that caused air bubble during calibration**
- **Meters read between 28-32 pounds (should be 36 pounds)**
- **New meters, new bodies and replacement nozzles involved**
- **Tru-Test replaced all nozzles for free**

TRU-TEST®

GROUP

Lactocorder T-T



- Lactocorder is manufactured by WMB from Switzerland
- ICAR-certified for cattle, goats and sheep
- New marketing agreement between Tru-Test and WMB
- **Lactocorder is not field ready yet – device is certified however total system needs refinement**
- Meter works on the expected milk yield principle – need to have ID and previous milk in the system



Waikato Electronic Milk Meter



- Waikato applied for ICAR test late in 2017
- Includes EMM, new sampler and software
- Will be conducted in three parts
 - Lab – France
 - Farm #1 – Michigan
 - Farm #2 – Ireland
- **Cannot use this meter for DHI programs currently**

Frontline Challenges and Opportunities



Field Service Advisory Committee
March 6, 2018

Jay Mattison
CEO, National DHIA
Quality Certification Services Inc.

Topics for Discussion and Information

- Access and Use of data
- ID –sample and animal
- CDCB Capitalization payback
- Tax changes coming

- Other

CHALLENGES AND OPPORTUNITIES

ACCESS AND USE

Simple
Efficient

data flow that follows dairy producers
intent and in best interests

CHALLENGES AND OPPORTUNITIES

Roles as:

Providers

Processors

Users

Research

CHALLENGES AND OPPORTUNITIES

- History
- Definition of terms
- Application of Policy
- Membership or Service Agreements
- Data input and output
- Data access and use

CHALLENGES AND OPPORTUNITIES

At the end of the day:

- A solid understanding of policy and addressing application
- Implementation at:
 - DRPs – standard language and education
 - DRPCs – logic table implemented
 - CDCB – logic table and application for data access

Terms and Definitions

- Terms
 - Privacy = (publication)
 - Release = (disclosure)
 - Access

CHALLENGES AND OPPORTUNITIES

At the end of the day:

- A solid understanding of policy and addressing application
- Implementation at:
 - DRPs – standard language
 - DRPs – education & outreach
 - DRPCs and CDCB – handling codes

ID
a focus
area

Identification of:

- Animal
- Sample

ID is foundation of management

ID is moving

USAHA 2017 Resolution 8 / page 2

Services (VS) and State Departments of Agriculture, Animal Health Commissions, and Boards of Animal Health to set a mandatory date of January 1, 2021 to discontinue allowing visual only tags (including NUES tags) to be applied as official identification (ID) and a date of January 1, 2023 for all cattle and bison which are currently required to be officially identified under the rule to have electronic official ID tags which meet the standards defined by the USDA.

USDA shall be responsible for determining the specifications of the electronic official ID tags and reading equipment on or before July 1, 2019 after consultation with technology companies, industry, and other countries that have successfully implemented electronic ID programs. Official electronic ID tags must be read at the speed of commerce. Cattle and bison shall be identified prior to or when they leave their premises of birth or at the first point of commingling. Traceability to the premises of birth shall be maintained. Federal and State cost sharing shall be considered.

Federal/State Agencies, Industry, and Technology Companies shall ensure cost sharing for this project.

Topics for Discussion and Information

- ~~Access and Use of data~~
- ~~ID – sample and animal~~
- CDCB Capitalization payback
- Tax changes coming

- Other

Topics for Discussion and Information

- ~~Access and Use of data~~
- ~~ID – sample and animal~~
- ~~CDCB Capitalization payback~~
- Tax changes coming

- Other

Financial and Tax Reporting

FASB ASU 2016-14 released August 18 2016

- Will change some of the classifications of assets
- Reporting changes will be implemented

990 Tax reporting and forms changes

- More detail and items to be checked
- Longer forms

Consultant with your Accounting and Tax providers

Questions?



Innovation and Added-value keeping it recording relevant

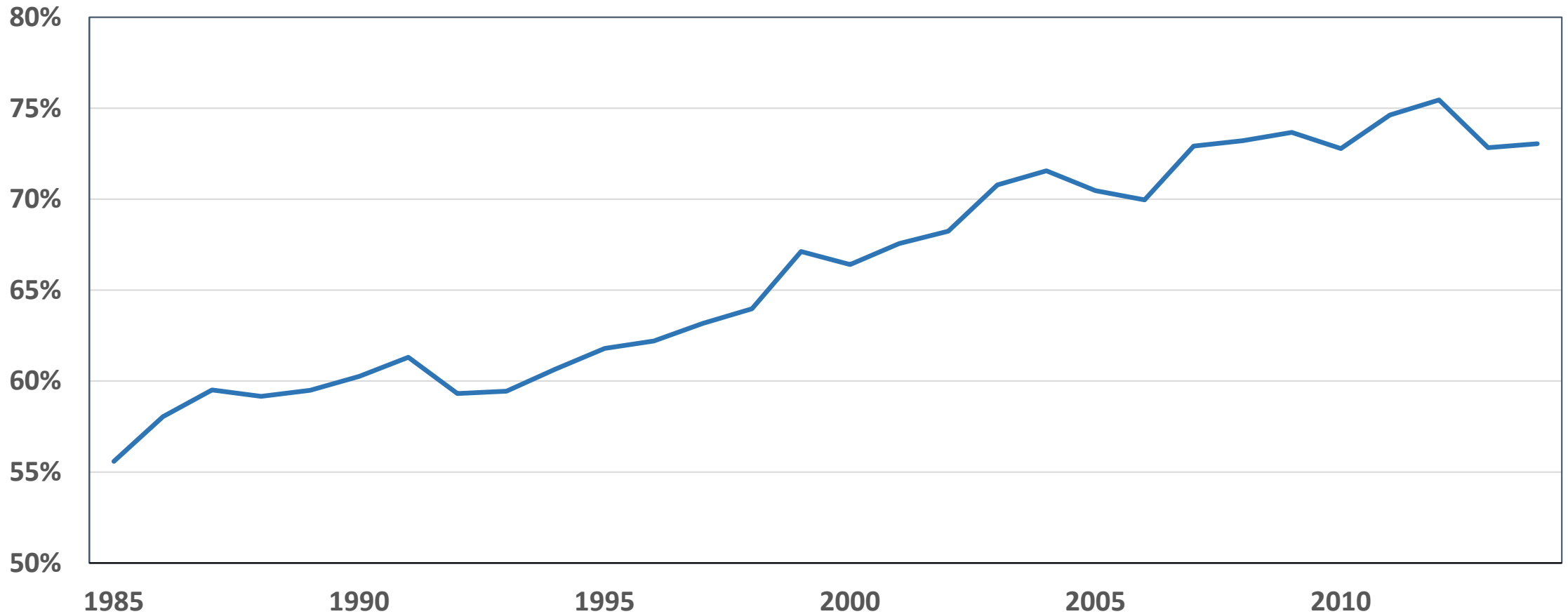
Daniel Lefebvre, Ph.D. agr.
General Manager - Valacta



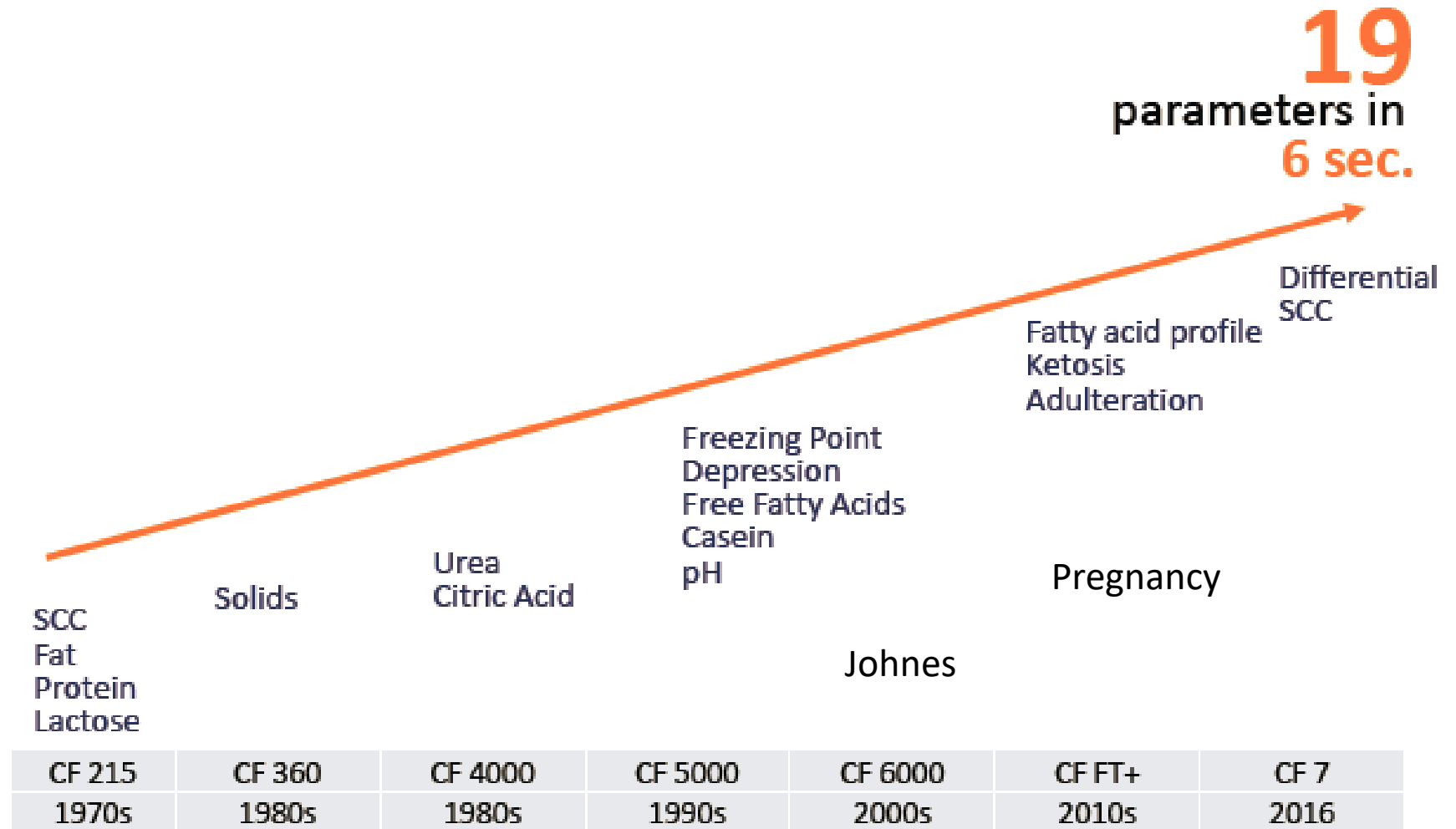
valacta

CENTRE
D'EXPERTISE
EN PRODUCTION
LAIÈRE

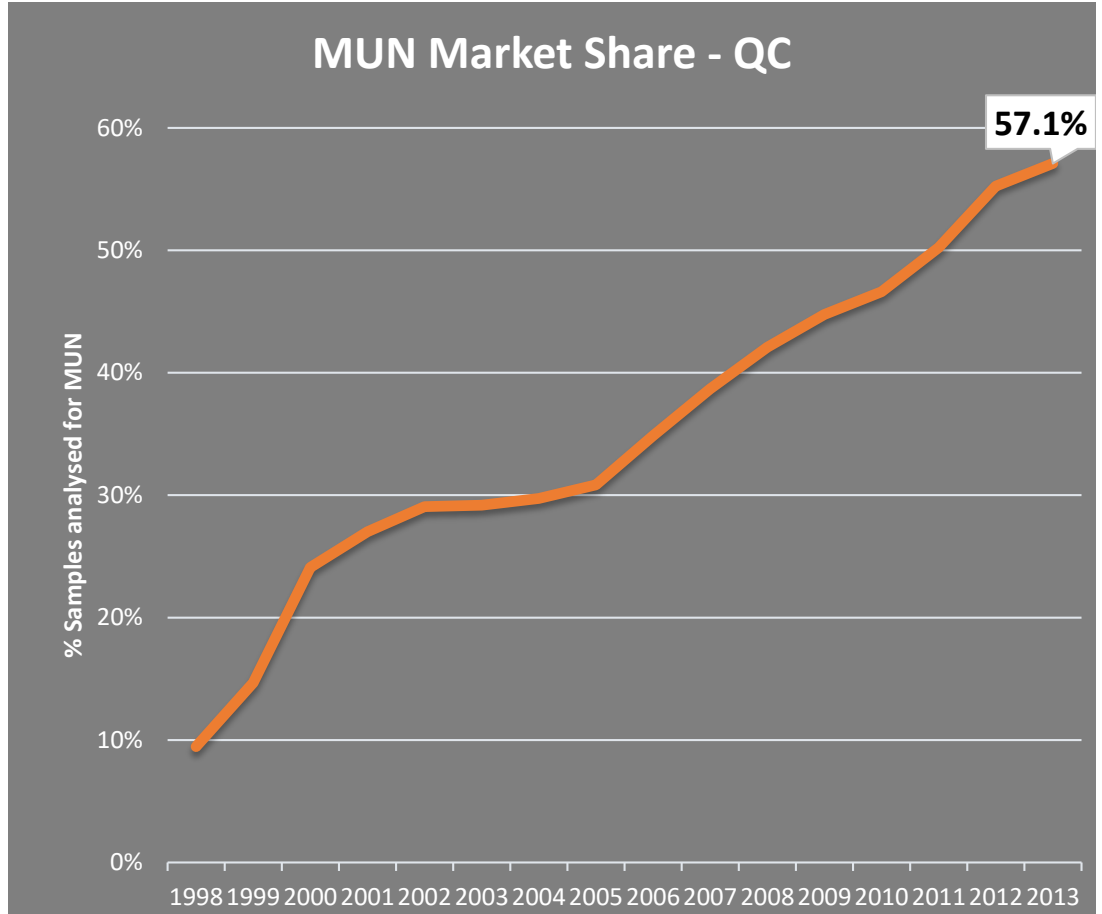
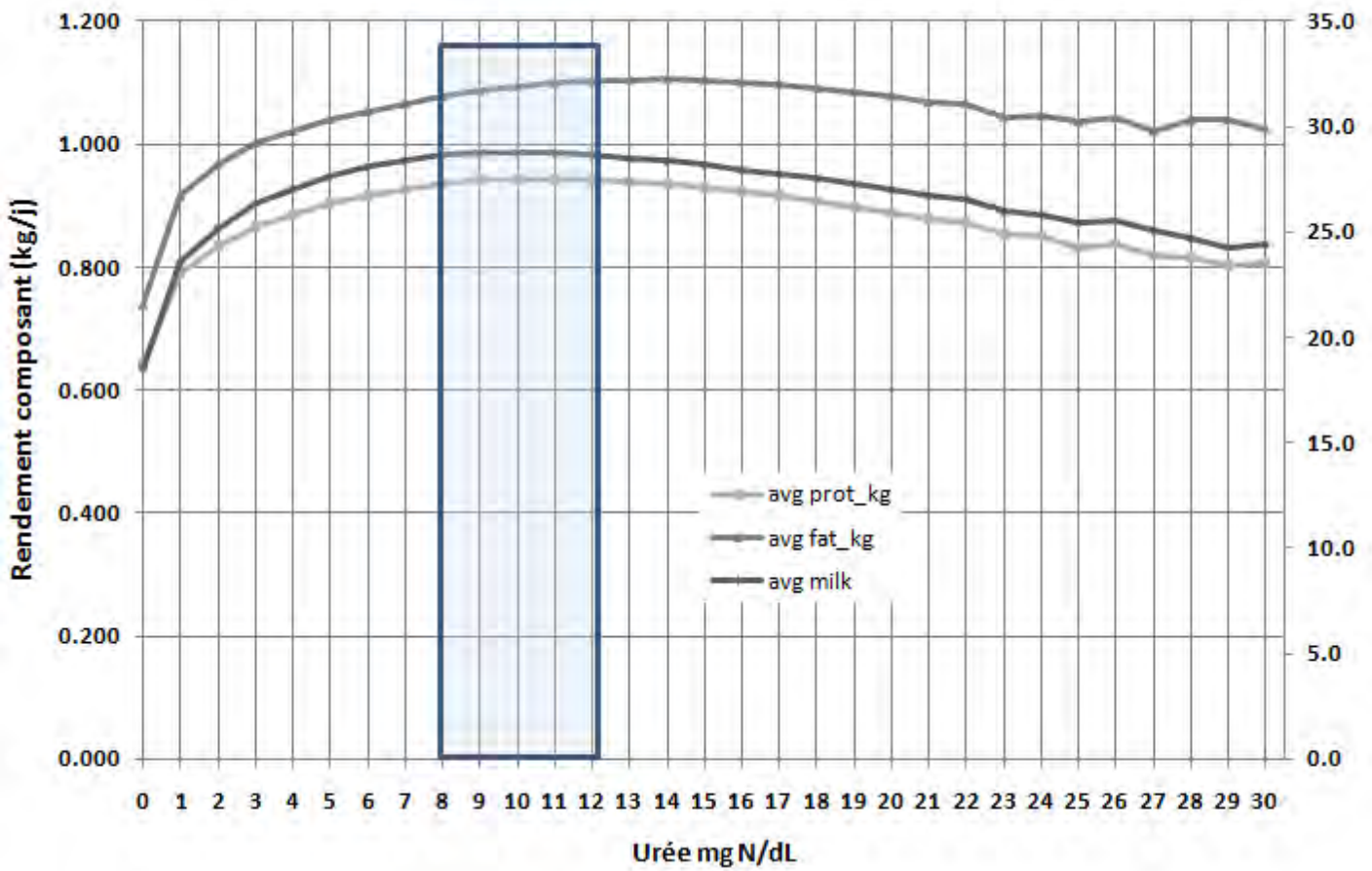
Proportion of Cows on Milk Recording



What can we measure today?

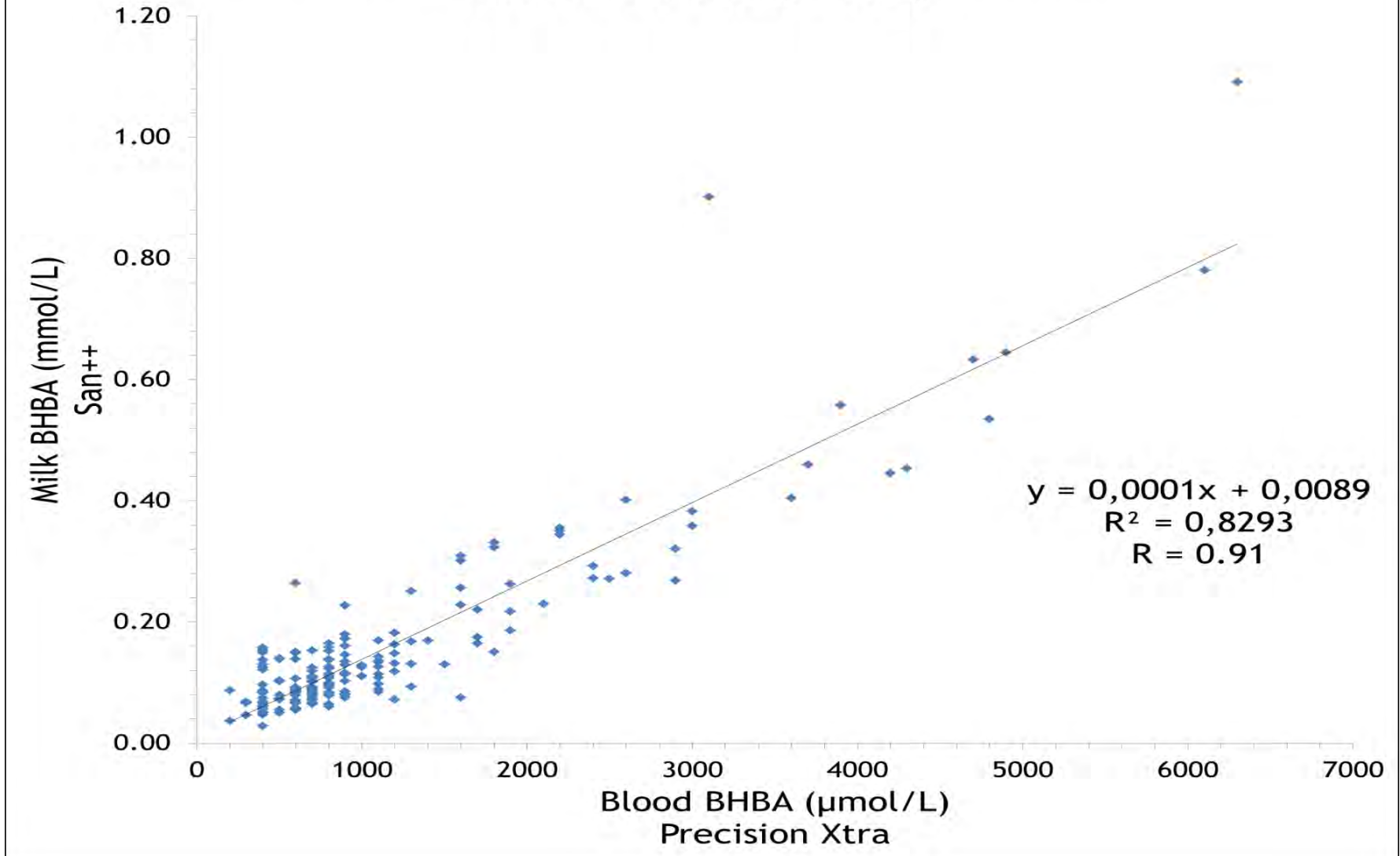


MUN – >20 Years Experience

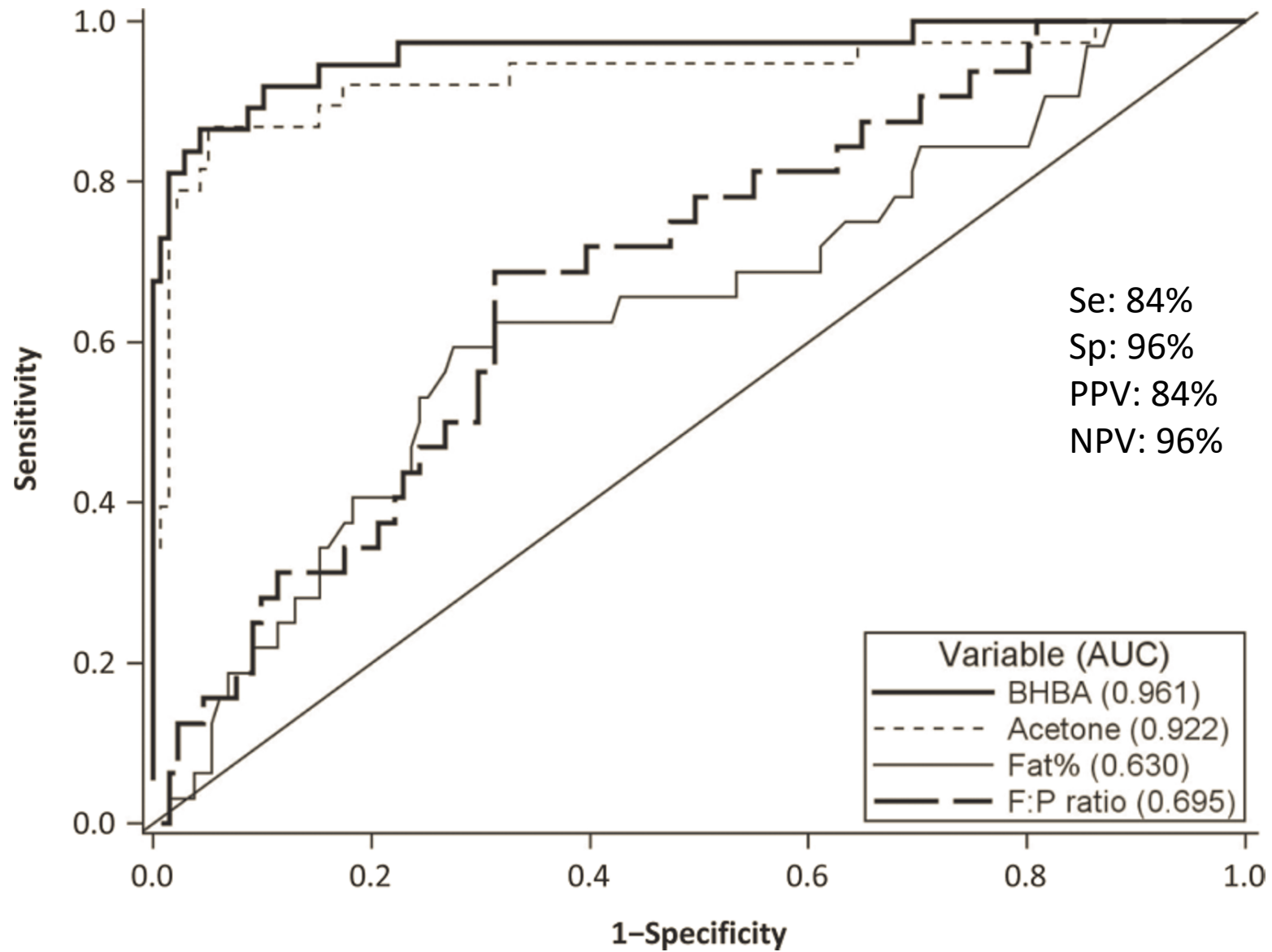




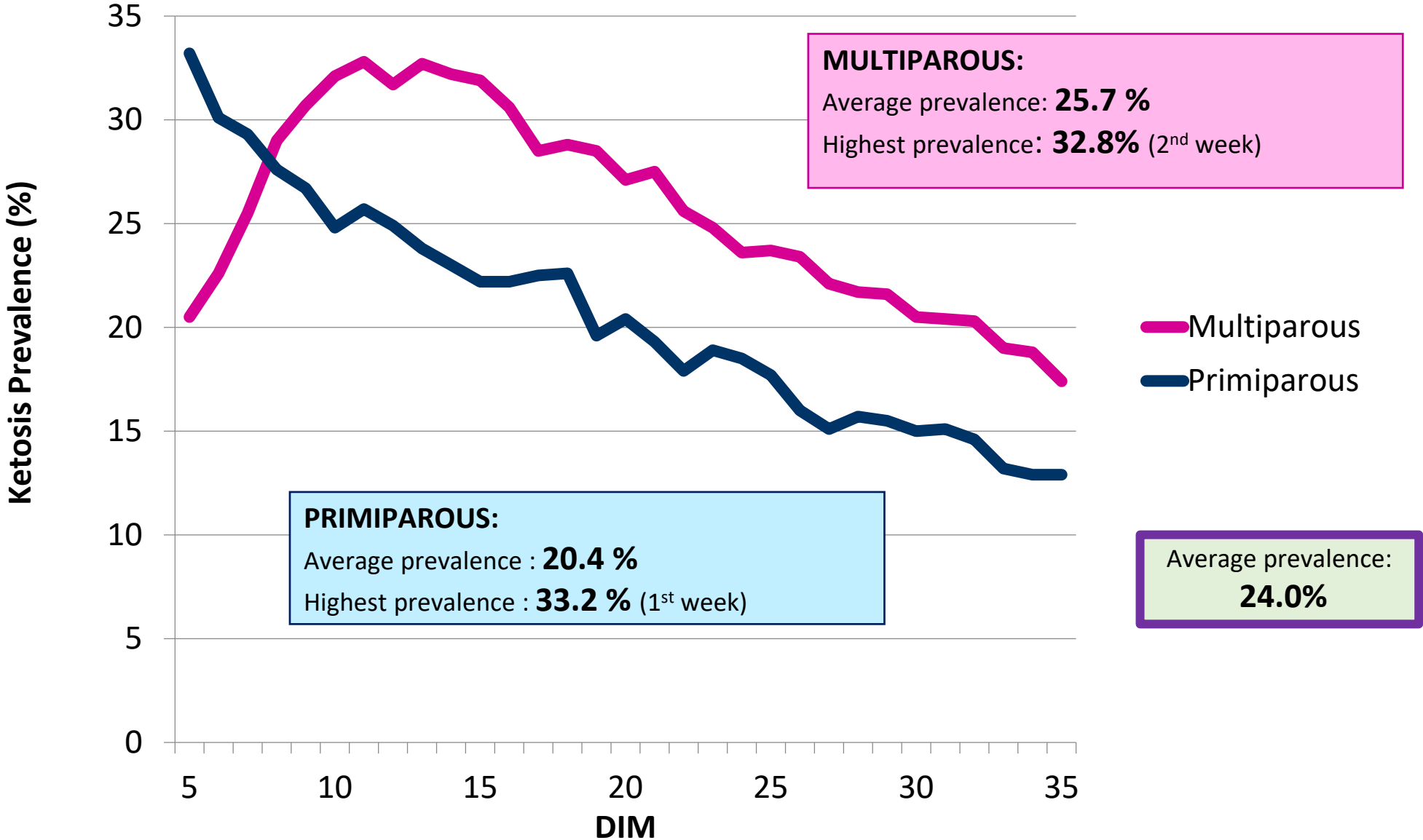
Graph 1. Correlation between milk BHBA concentration using SAN++ test and blood BHBA concentration (n=190)



Blood vs Milk : Test Characteristics



Ketosis prevalence (POS + SUSP) according to parity

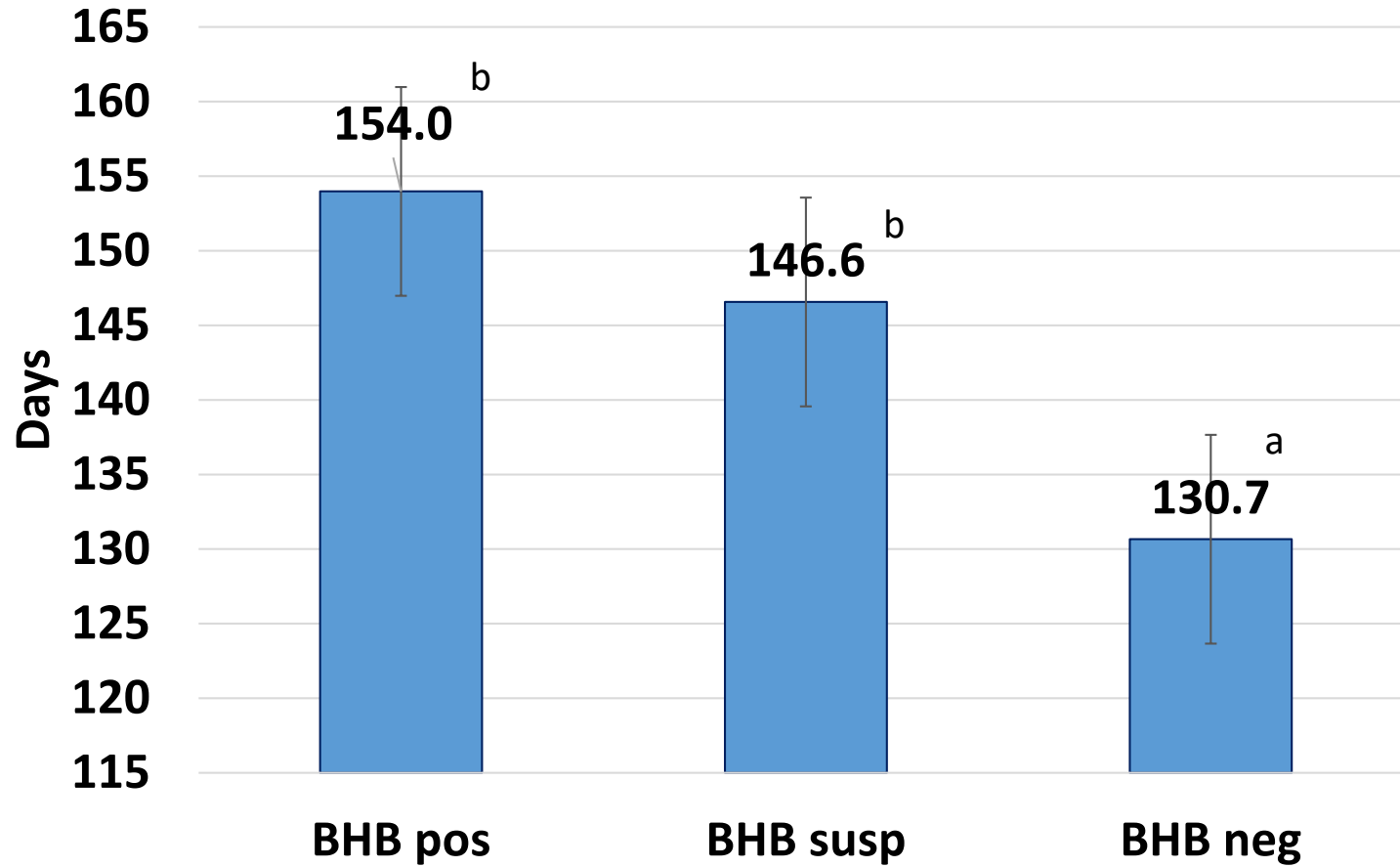


Impacts on Test Day Milk Yield and Components.					
	POS	SUSP	NEG	SE	P
Milk yield (kg/d)	30.1 ^a	32.3 ^b	32.5 ^b	0.2	0.001
Fat (%)	5.07 ^c	4.62 ^b	4.10 ^a	0.02	0.001
Protein(%)	3.19 ^b	3.17 ^a	3.25 ^c	0.01	0.001
SCC (1000 cells)	360 ^c	318 ^b	232 ^a	23	0.001
Urea (mg N/dL)	9.2 ^a	10.0 ^b	10.5 ^c	0.1	0.001
Protein:Fat ratio	0.65 ^a	0.71 ^b	0.82 ^c	0.01	0.001
Transition Cow Index¹	-68 ^a	202 ^b	189 ^b	40	0.001

¹ Multiparous cows only

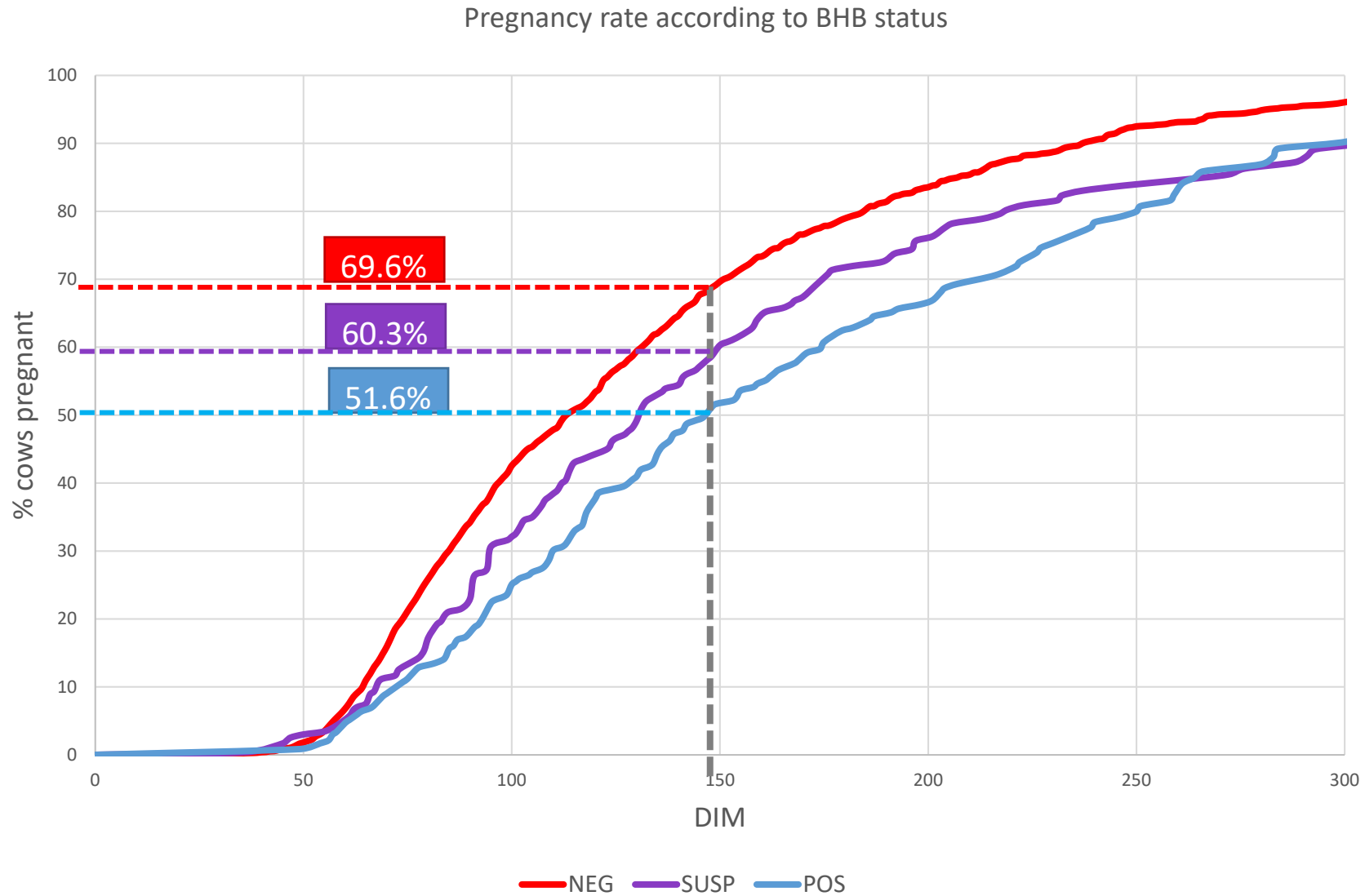


Days Open



$P(\text{catBHB}) = 0.001$
 $P(\text{Parity} * \text{catBHB}) = 0.09$

Effect on Reproduction

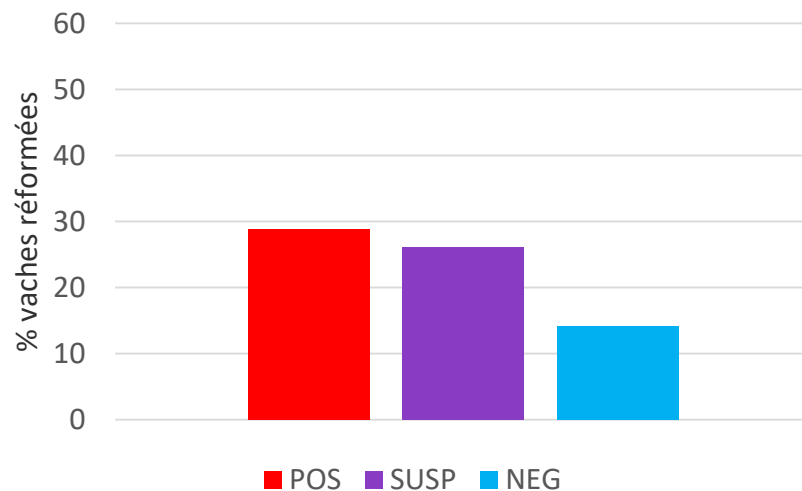


Impact on survival

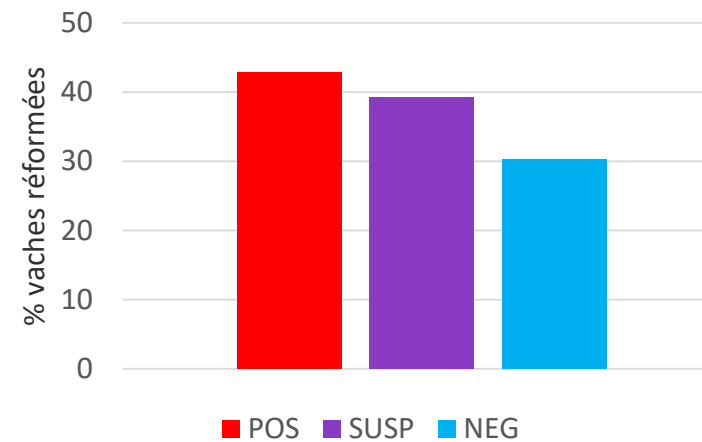


	POS	SUSP	NEG	SE	P
Culling rate (before 100 DIM)	28.8 ^b	26.1 ^b	14.2 ^a	1.8	0.001
Culling rate (lactation)	42.8 ^b	39.2 ^b	30.3 ^a	1.9	0.001

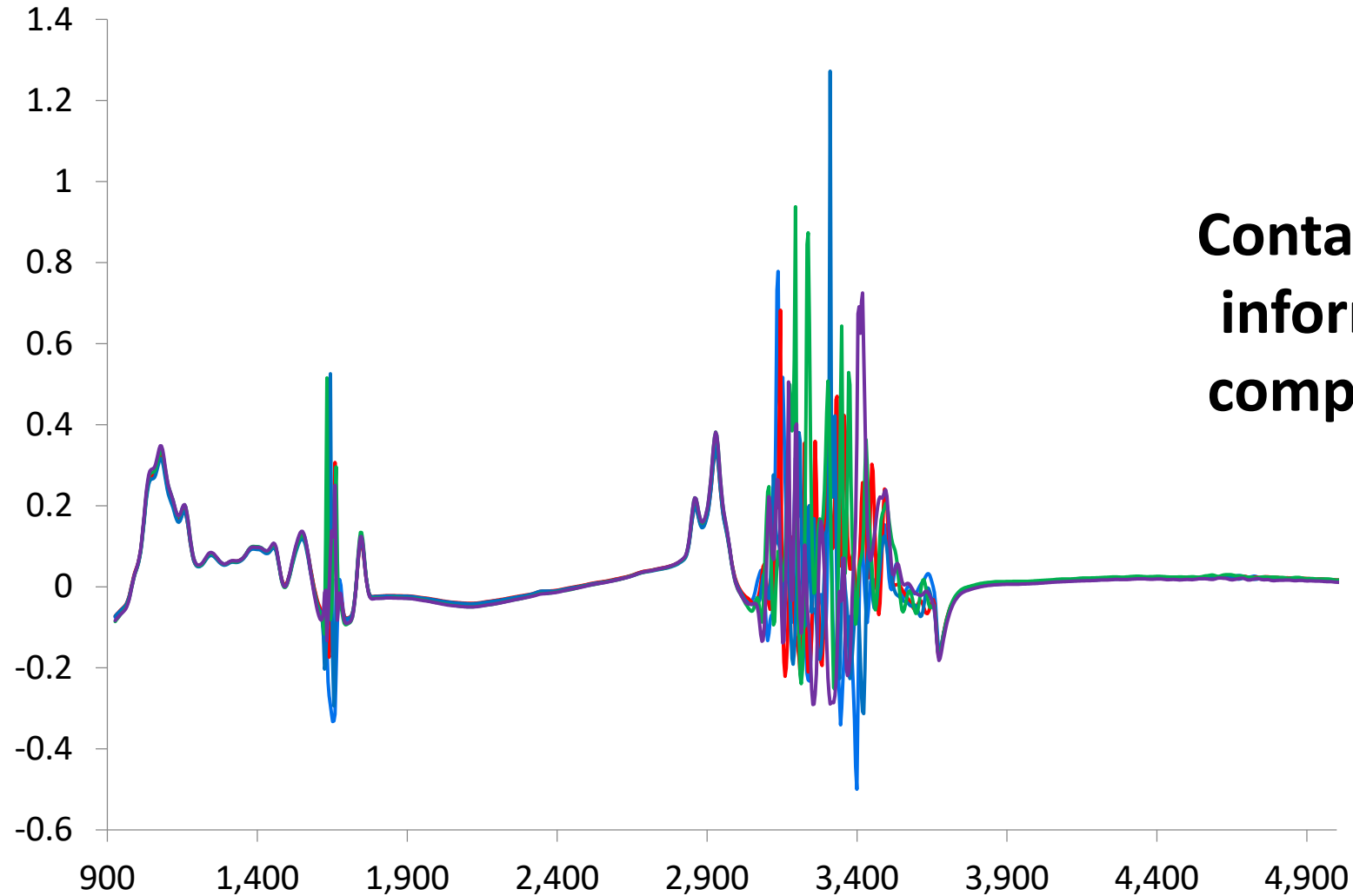
Culling by 100 JEL



Culling before next lactation

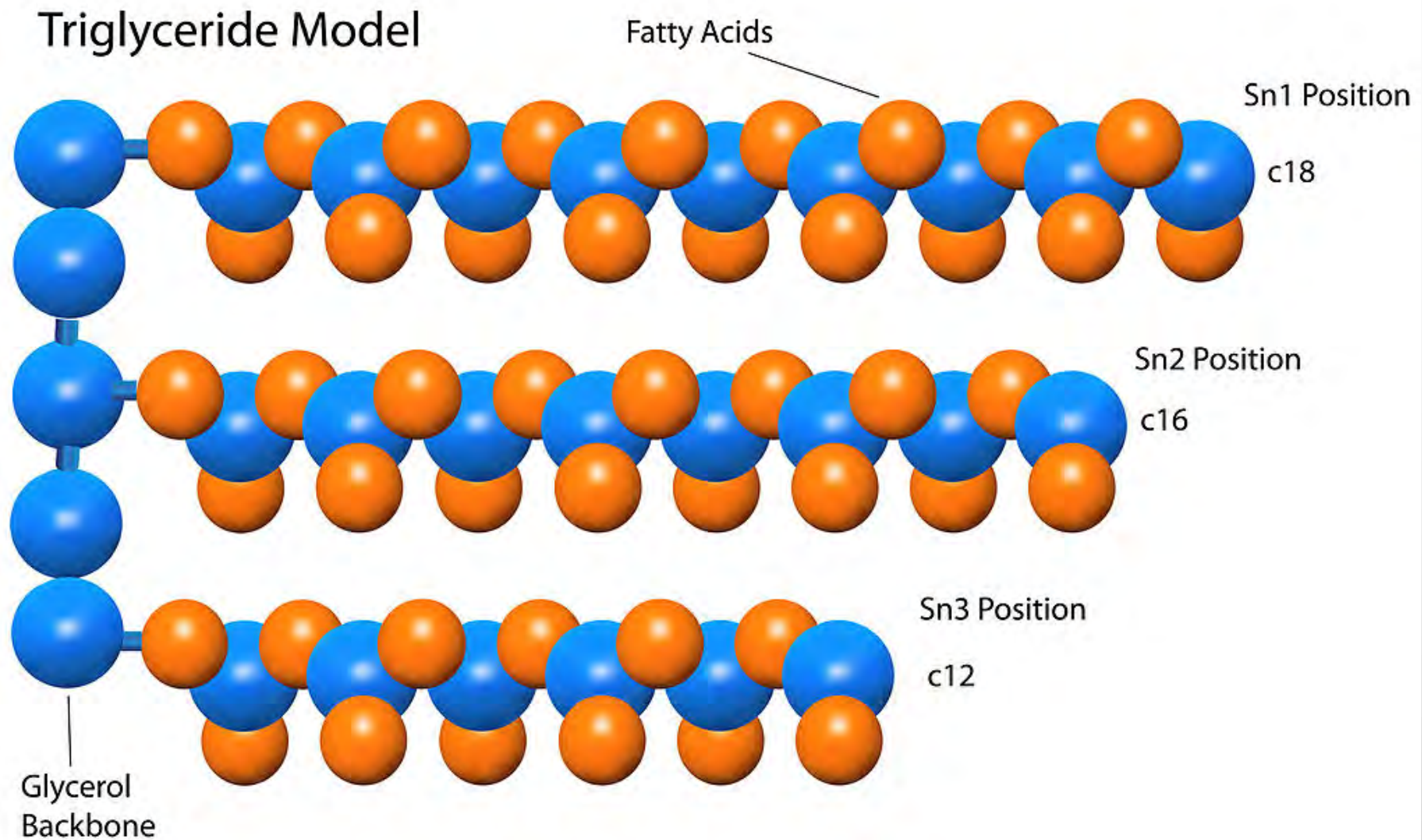


MIR Spectra of Milk

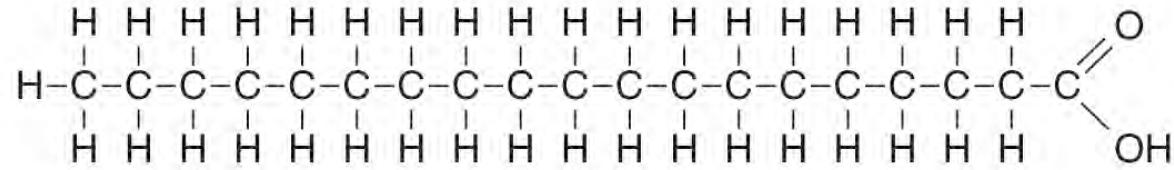


**Contains much more
information on the
composition of milk**

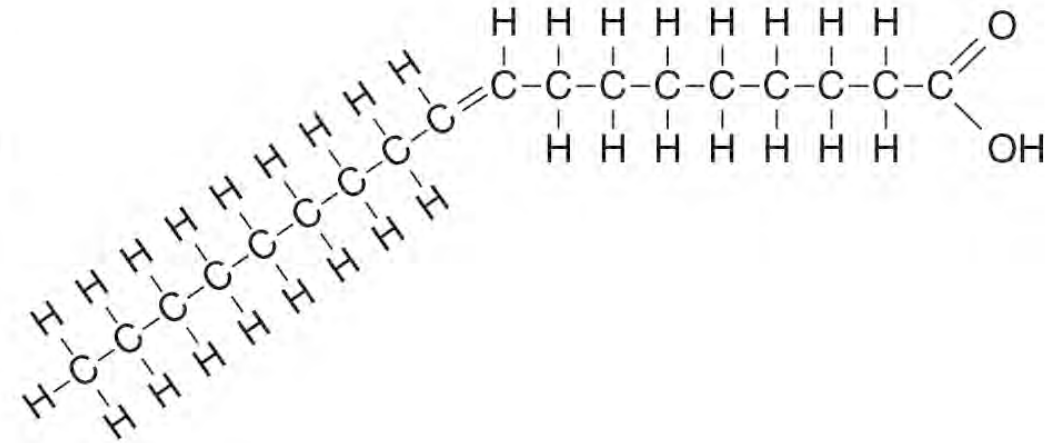
From Fat to Fatty Acids



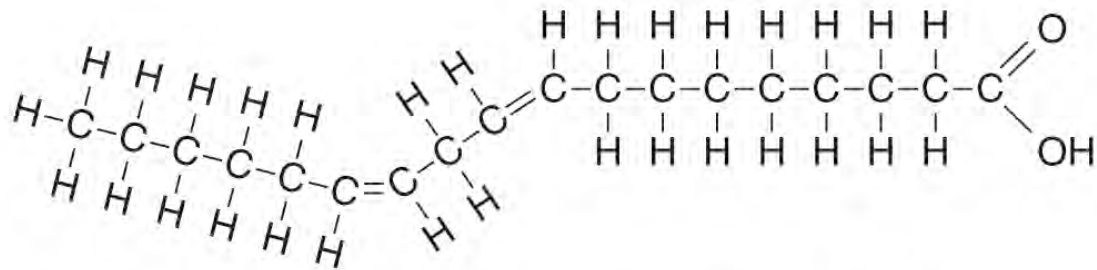
Saturated or Unsaturated?



Stearic acid (saturated fatty acid)



Oleic acid (monounsaturated fatty acid)



Linoleic acid (polyunsaturated fatty acid)

Figure 1 Structure of different fatty acids

Source: US Department of Agriculture.

>400 Fatty Acids in Cows' Milk!

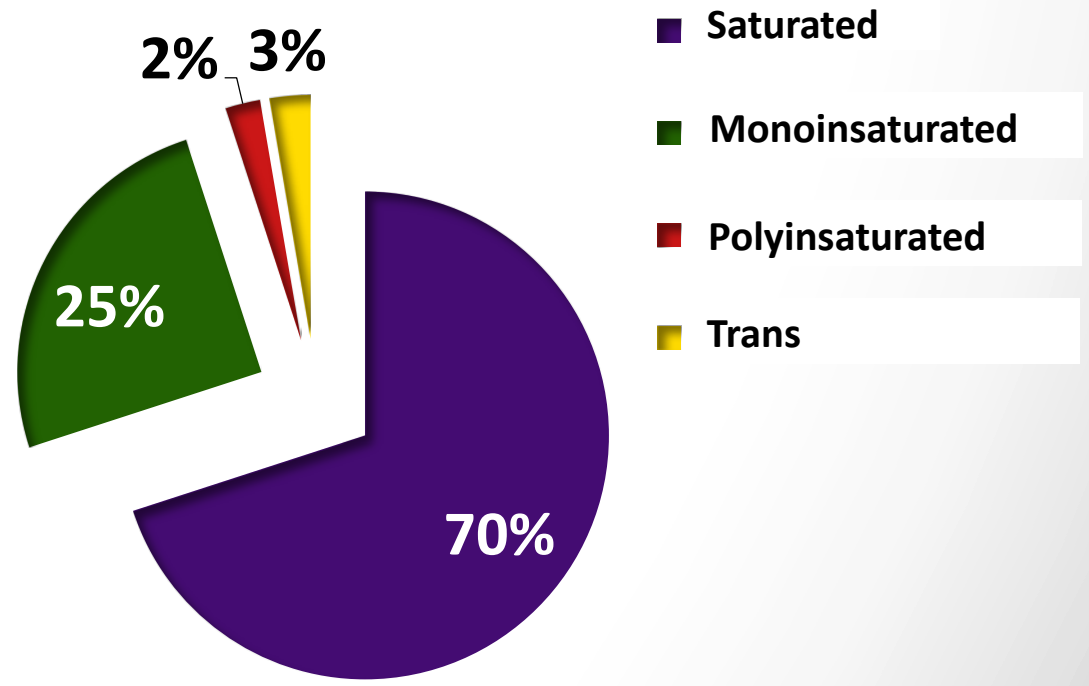
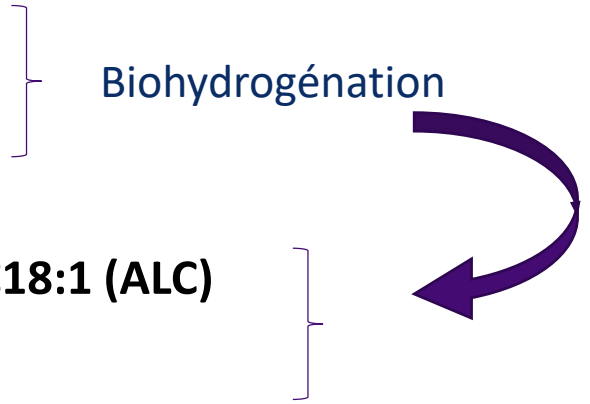
Fatty Acids:

- Short Chain (C4 to C10)
- Medium Chain (C12 to C14)
- Long Chain (C16 to C18)

- Branched chain (iso & anteiso)
- Odd Chain

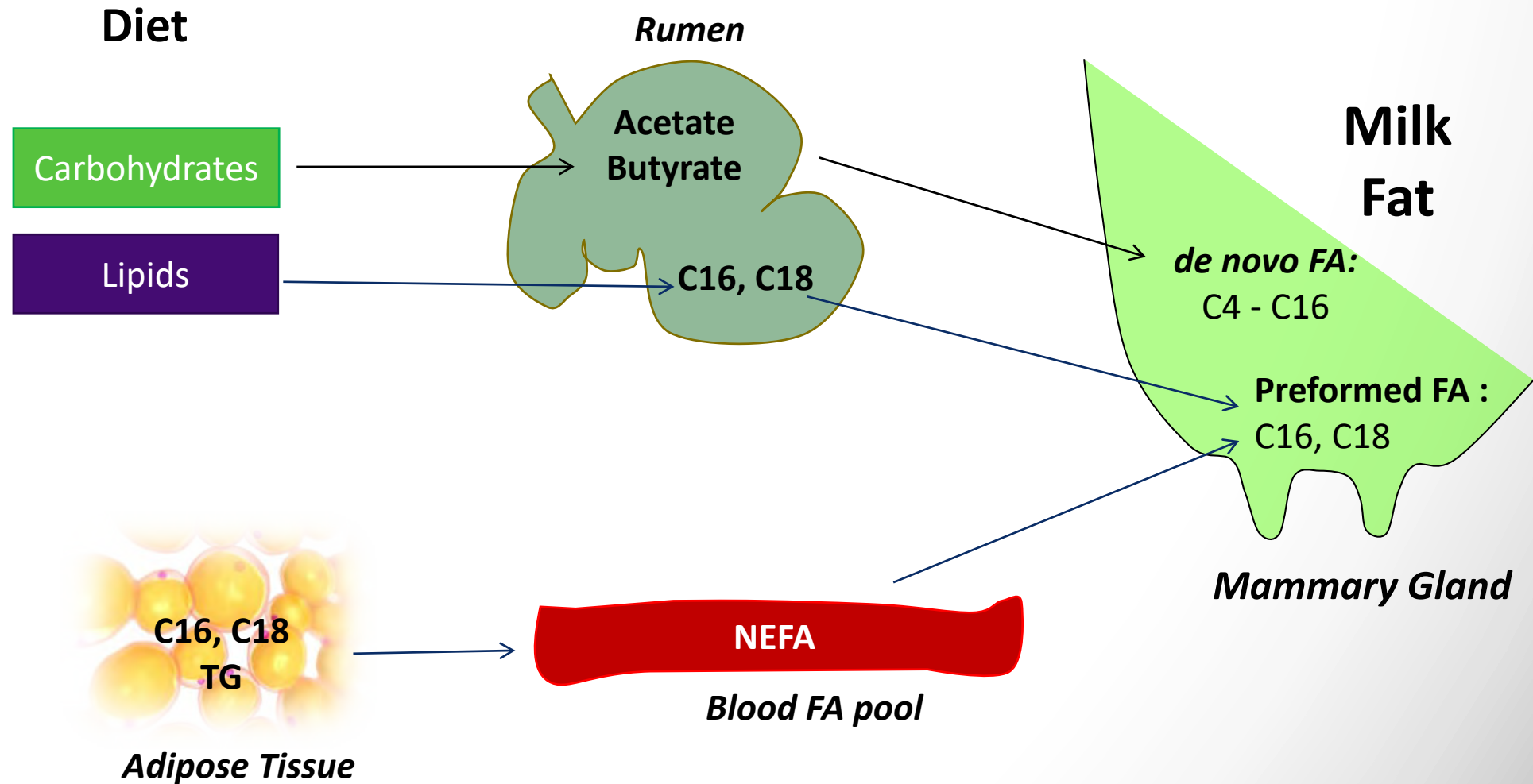
- Omega 6
- Omega 3

- *cis*-9, *trans*-11 C18:1 (ALC)
- *trans*-11 C18:1





Origin of Milk Fatty Acids



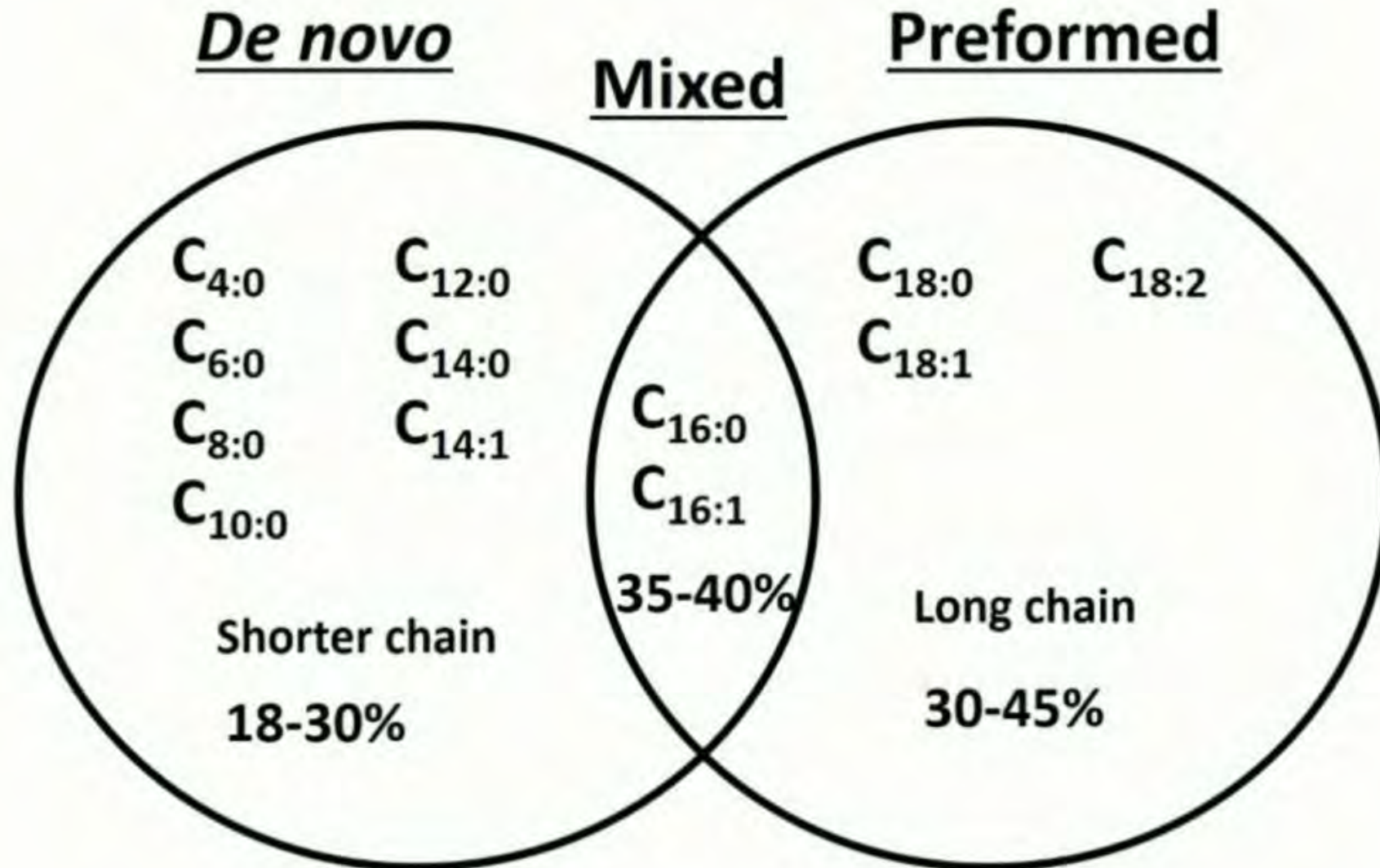
Milk Fatty Acids – Who cares?



- **The Cow**
 - Nutrition and management diagnostic tool
- **The Farmer**
 - Healthy cows
 - Maximise revenue
- **The Processor**
 - Technological properties
- **The Consumer**
 - Healthier fats?
 - Labels certification
- **The Environment**
 - Methane Emissions

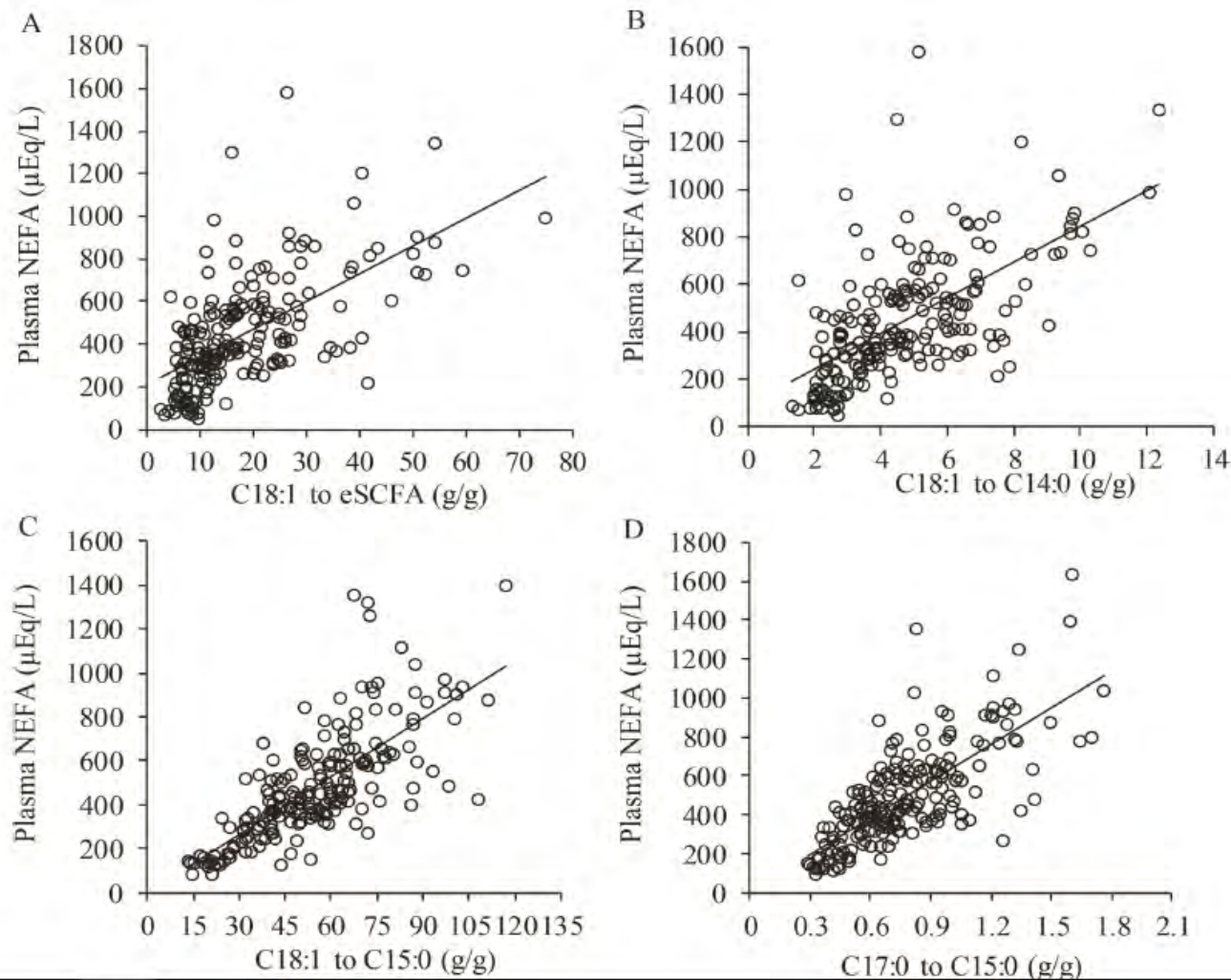


Fatty Acids by Origin

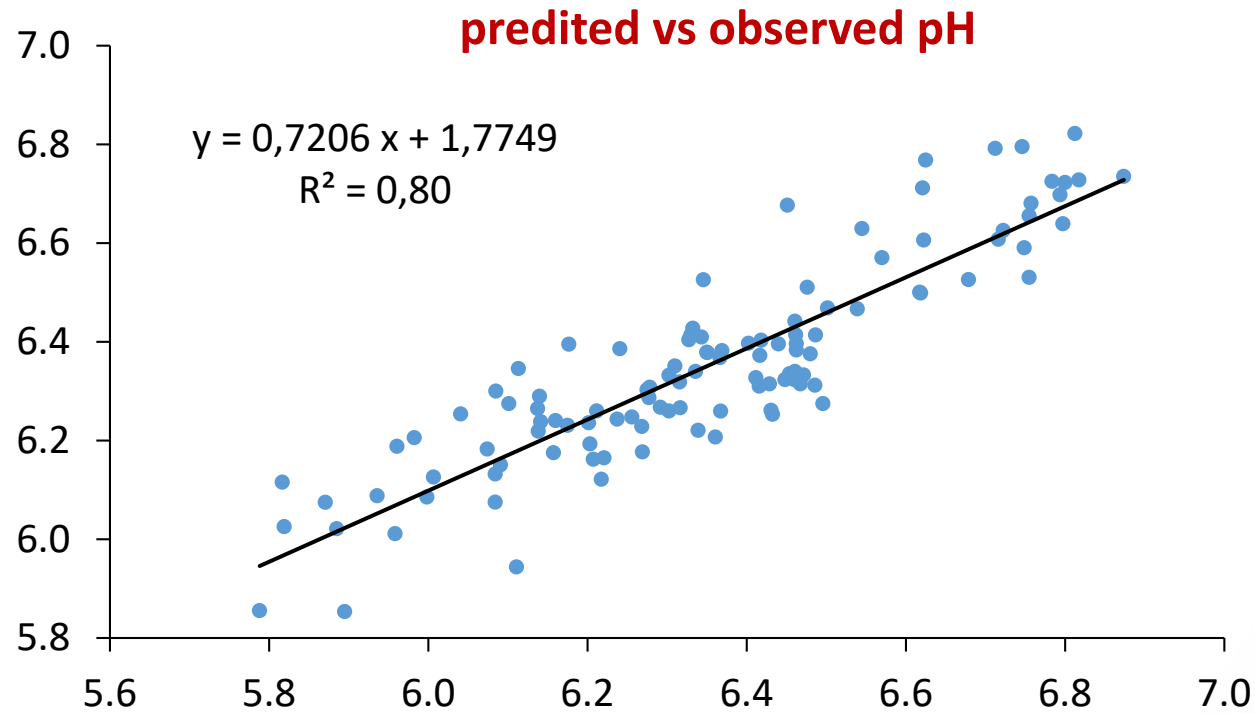


Milk Fatty Acids as a Monitoring Tool

Plasma Non-esterified Fatty Acids (NEFA)

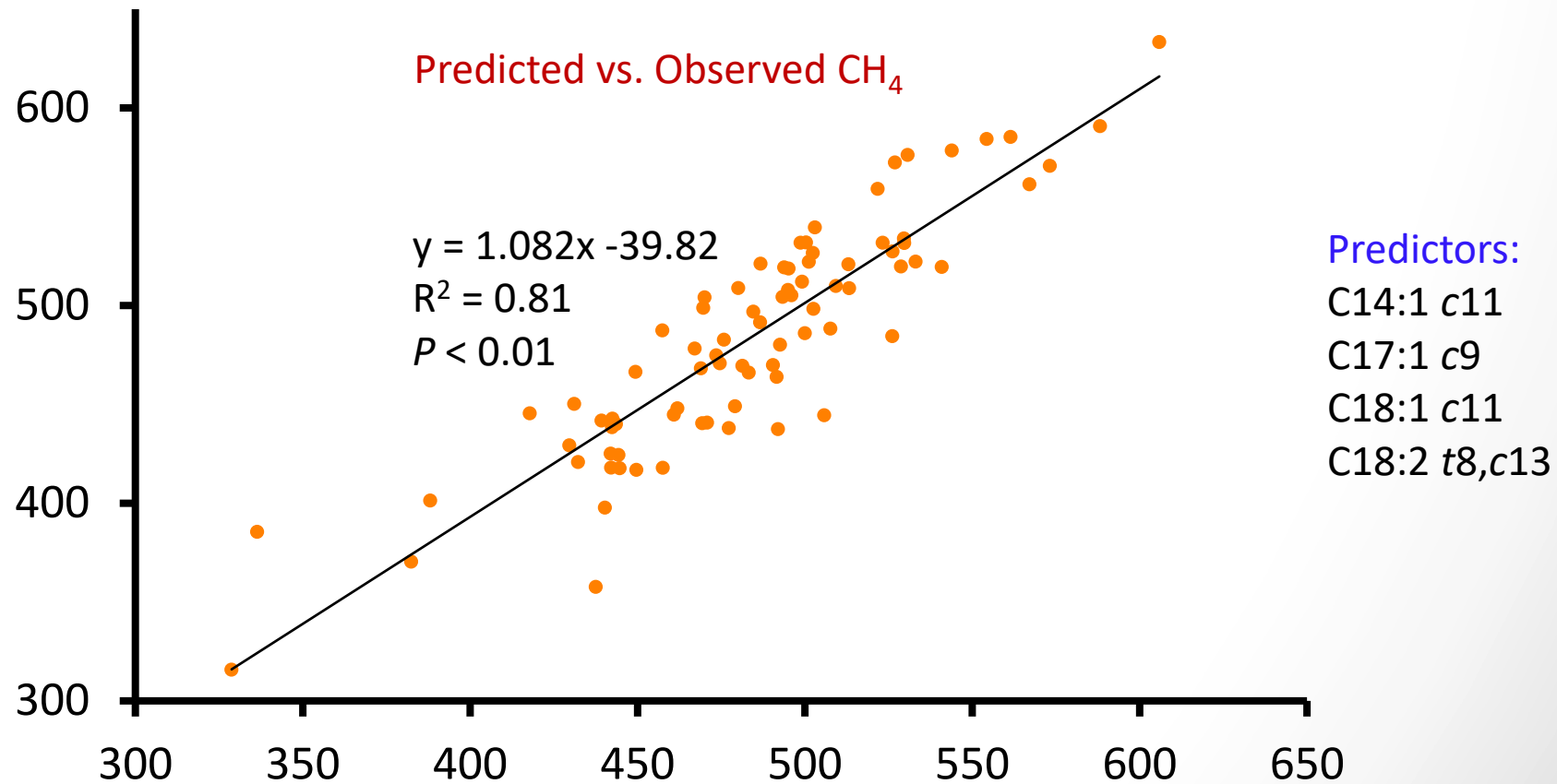


Predicting Rumen pH



$$\text{pH} = 3,8 + (0,061 \times \mathbf{18:0}) + (0,18 \times \mathbf{PUFA}) + (0,03 \times \mathbf{SFA}) - (0,07 \times \mathbf{18:1 trans})$$

Predicting Methane Emissions



Rico et al., 2016

GESTALAB

A different interpretation grid for each stage of pregnancy

Objectives

Interpretation = open

Negative Predictive Value > 99 %

Interpretation = pregnant

Positive Predictive Value \geq 97 %



Early pregnancy test 28 - 45 days since last breeding

Preventive Veterinary Medicine 140 (2017) 122–133

Bayesian estimation of sensitivity and specificity of a milk pregnancy-associated glycoprotein-based ELISA and of transrectal ultrasonographic exam for diagnosis of pregnancy at 28–45 days following breeding in dairy cows

Simon Dufour^{a,*}, Jean Durocher^b, Jocelyn Dubuc^c, Nandini Dendukuri^d, Shereen Hassan^b, Sébastien Buczinski^c

^a *Département de pathologie et microbiologie, Faculté de médecine vétérinaire, Université de Montréal, C. P. 5000, Saint-Hyacinthe, QC, J2S 7C6, Canada*

^b *Valacta, 555 boul. des Anciens-Combattants, Sainte-Anne-de-Bellevue, QC, H9X 3R4, Canada*

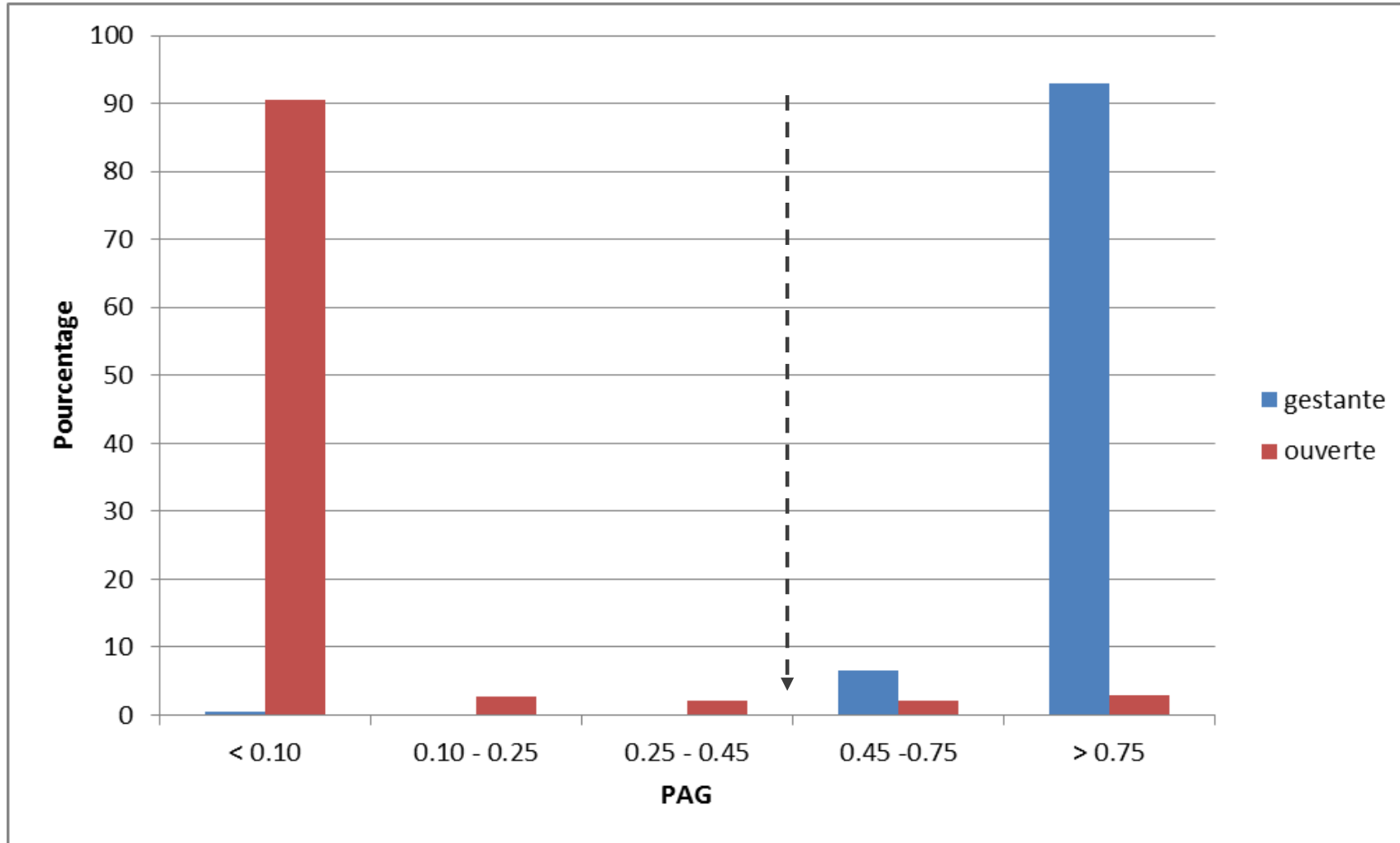
^c *Département de sciences cliniques, Faculté de médecine vétérinaire, Université de Montréal, C.P. 5000, Saint-Hyacinthe, QC, J2S 7C6, Canada*

^d *Technology Assessment Unit, Royal Victoria Hospital, 687 Pine Avenue W, QC, H3A 1A1, Canada*

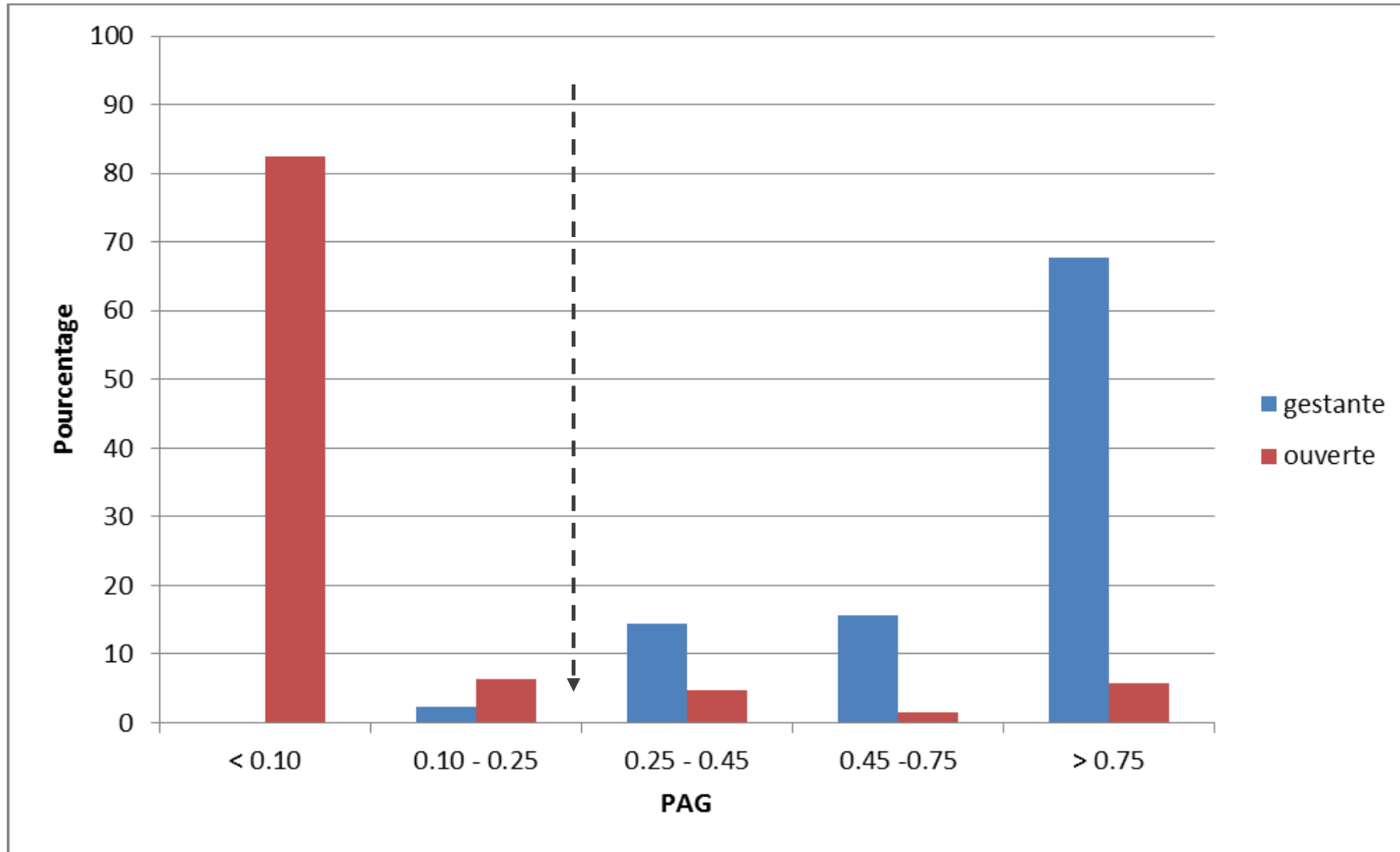
“ In conclusion, both TUS and PAG showed **excellent and very similar accuracy** for pregnancy diagnosis in dairy cows”

“ a single threshold of 0.25 could be used for test interpretation, instead of the two thresholds currently recommended by the manufacturer”

Early pregnancy test 28 - 37 days since last breeding



Early pregnancy test 38 - 45 days since last breeding



Early pregnancy test

28 - 37 days since last breeding

DSL	PAG	Interpretation
28 - 37	< 0.15	NPV = 99.5 %
28 - 37	≥ 0.15 and < 0.25	NPV = 96.8 % *
28 - 37	≥ 0.25 and < 0.35	NPV = 84.5 % *

* 50% of the pregnant cows (false negative test) conceived from a previous breeding (between 46 and 90 days after breeding)

Early pregnancy test

28 - 37 days since last breeding

DSL	PAG	Interpretation
28 - 37	< 0.15	Open
28 - 37	≥ 0.15 and < 0.25	Probably open (95%)
28 - 37	≥ 0.25 and < 0.35	Risk of embryonic death (80%)
28 - 37	≥ 0.35 and < 0.50	Inconclusive
28 - 37	≥ 0.50	Pregnant

Characterization of milk composition and somatic cell count estimates from automatic milking systems sensors

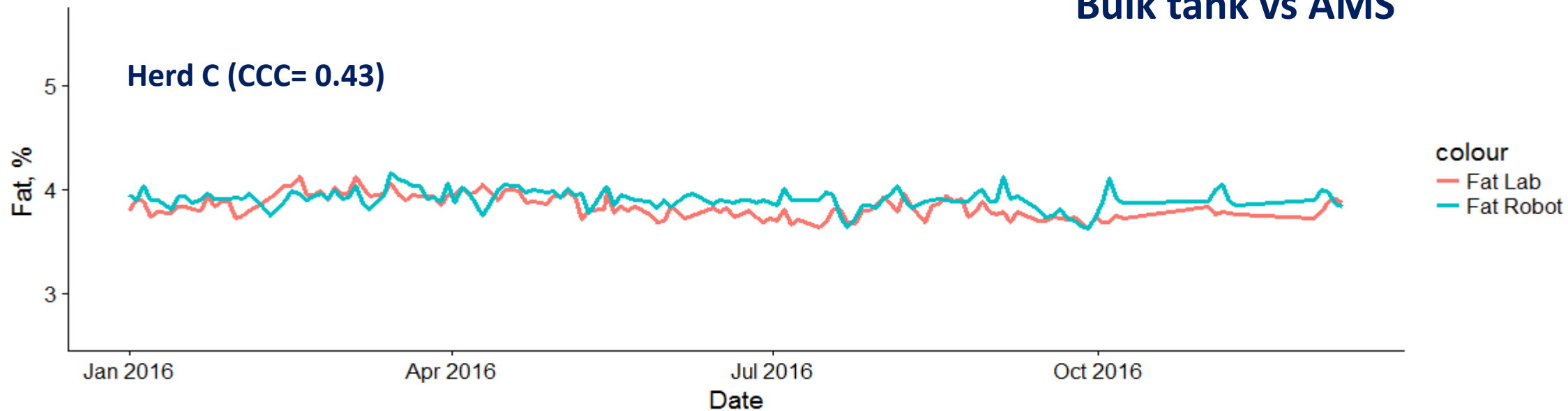
**Liliana Fadul-Pacheco, Mario Séguin, René Lacroix, Michel Grisé,
Daniel Lefebvre
February 2018**

valacta

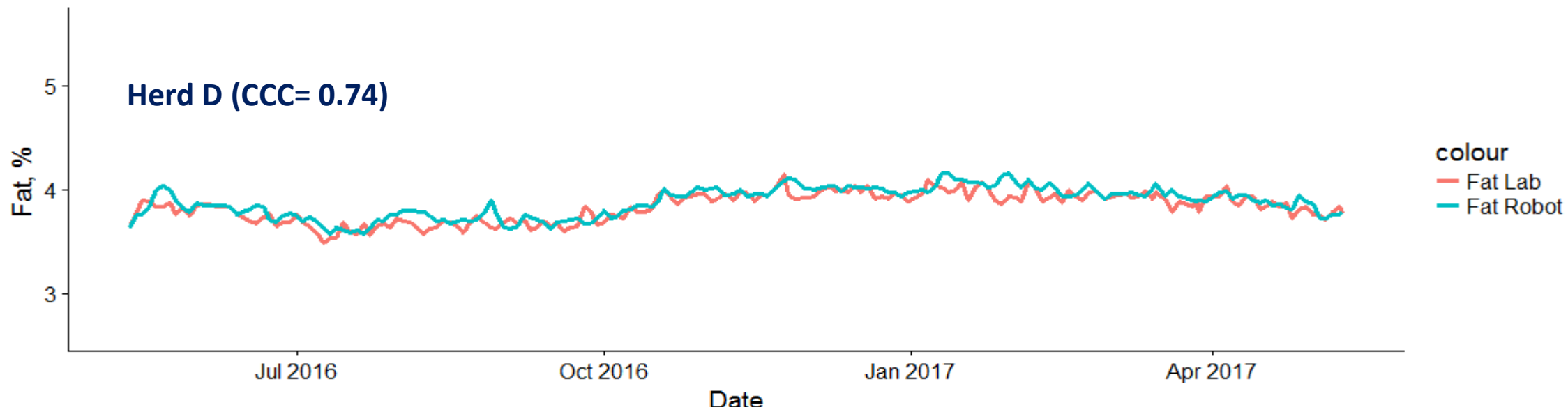
Results

C

Bulk tank vs AMS



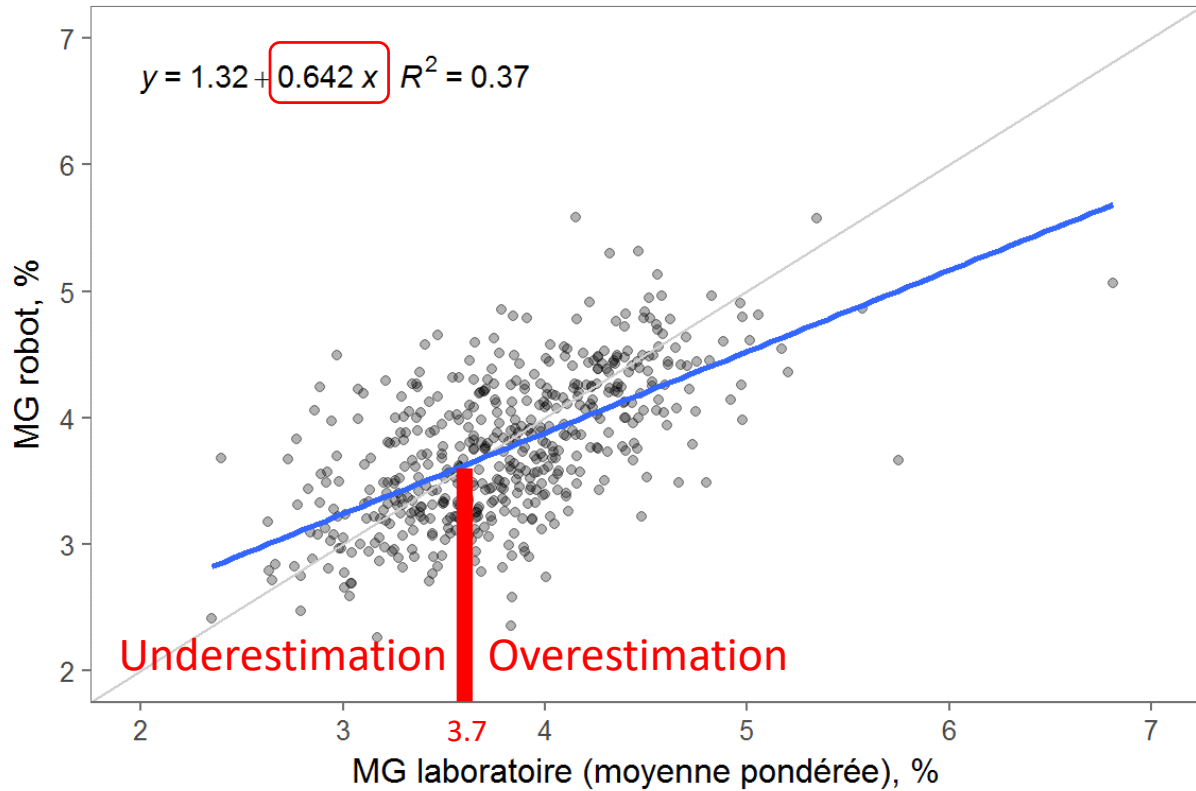
D



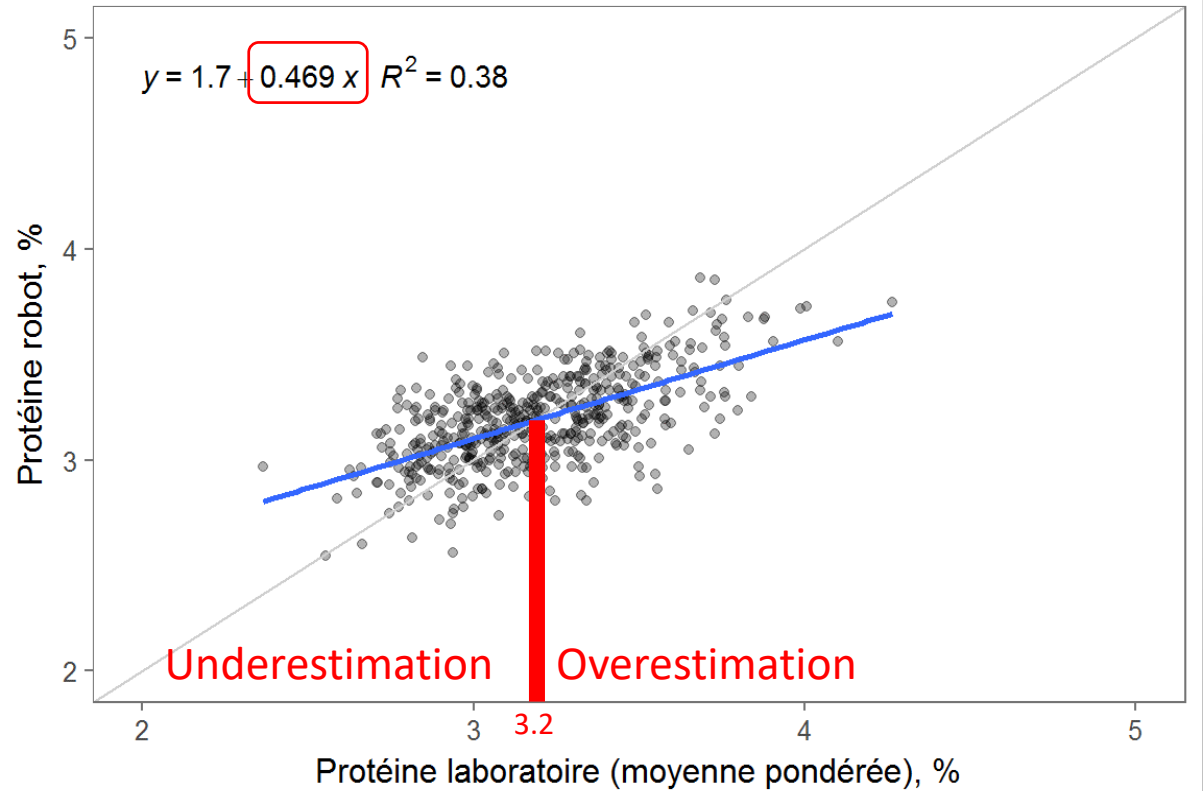
valacta

acta

Results - Components



Mean absolute difference: 0.50%



Mean absolute difference : 0.23%

Results by DIM Categories

valacta

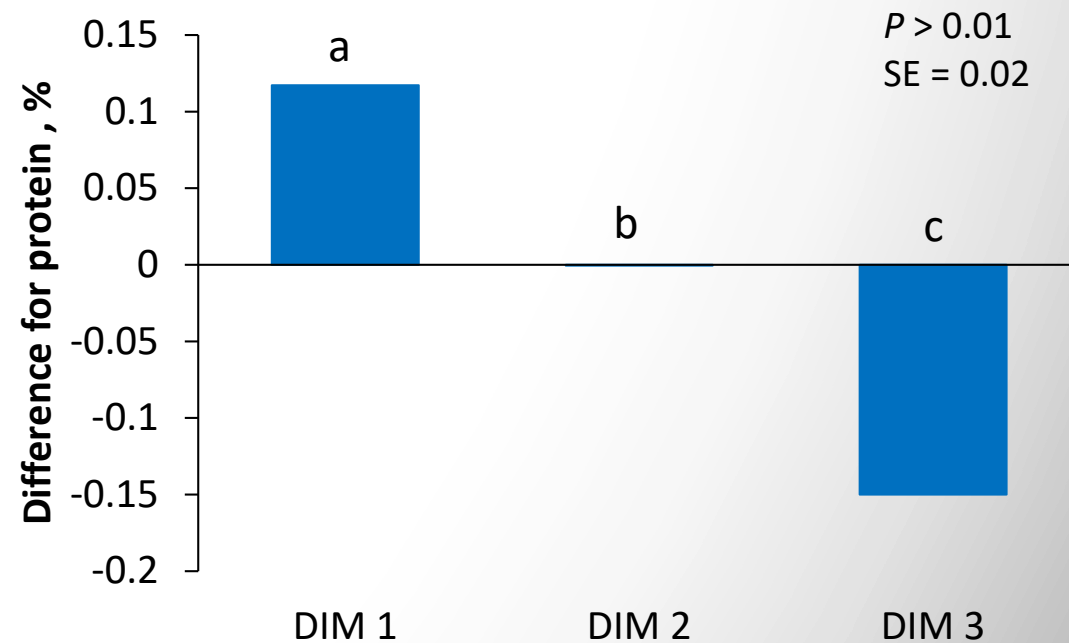
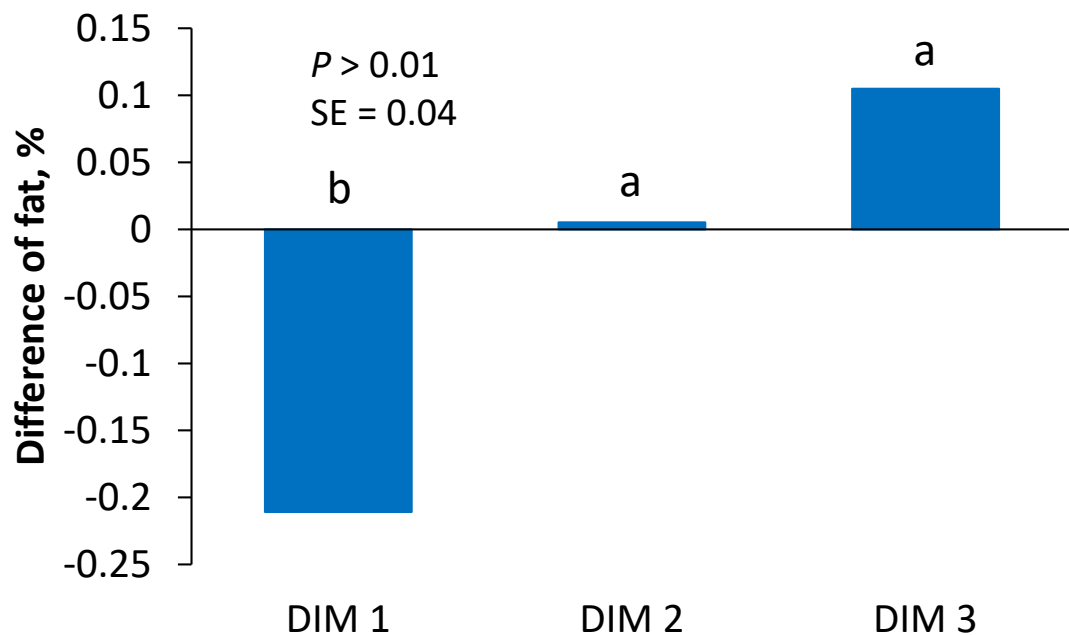
cta

Categories of DIM:

DIM 1 : DIM ≤100

DIM 2 : DIM between 101 and 200

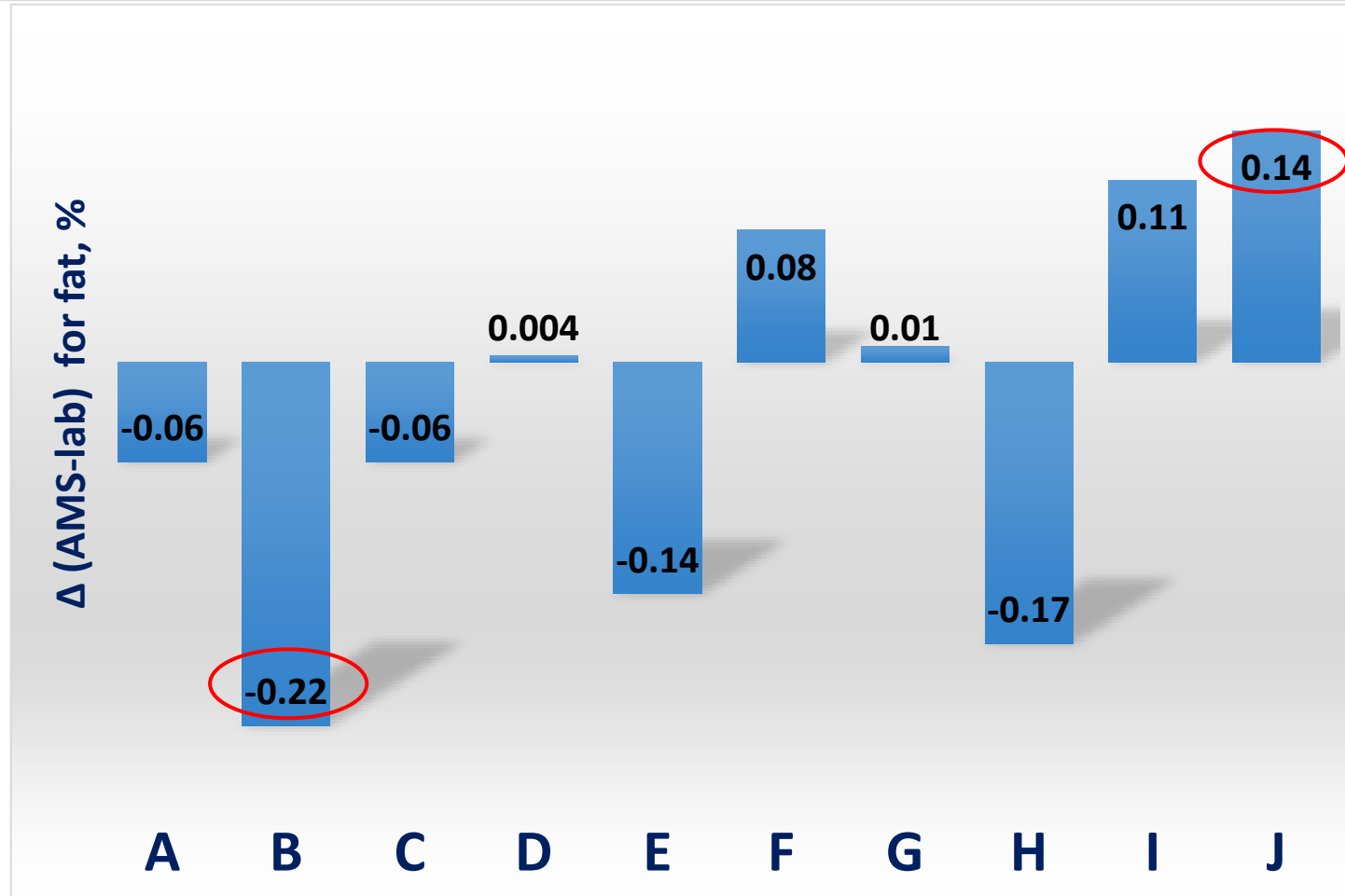
DIM 3: >201 DIM



Results

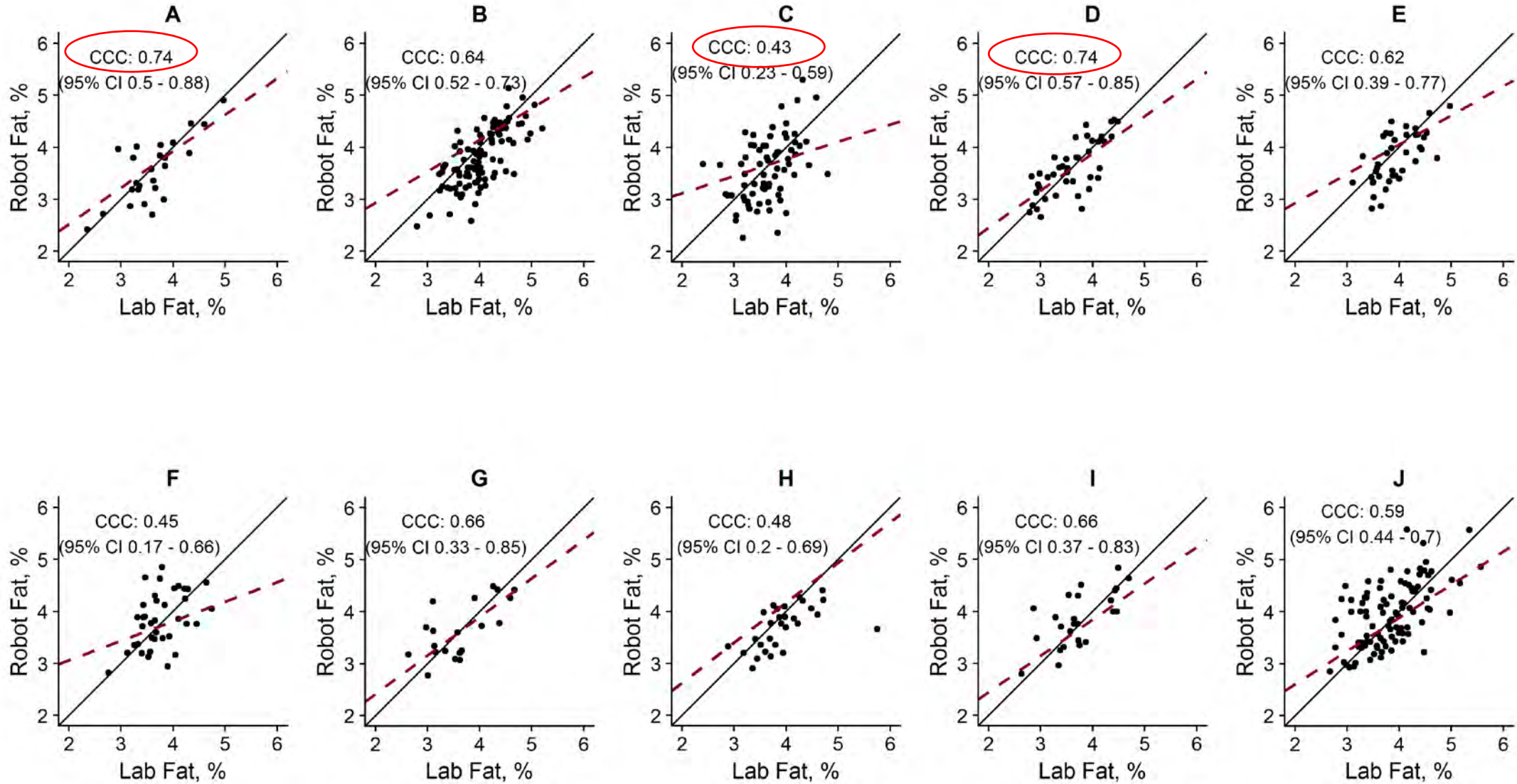
By herd

Differences among herds were larger for fat than for protein percentage
(MAE = 0.47 to 0.28%)

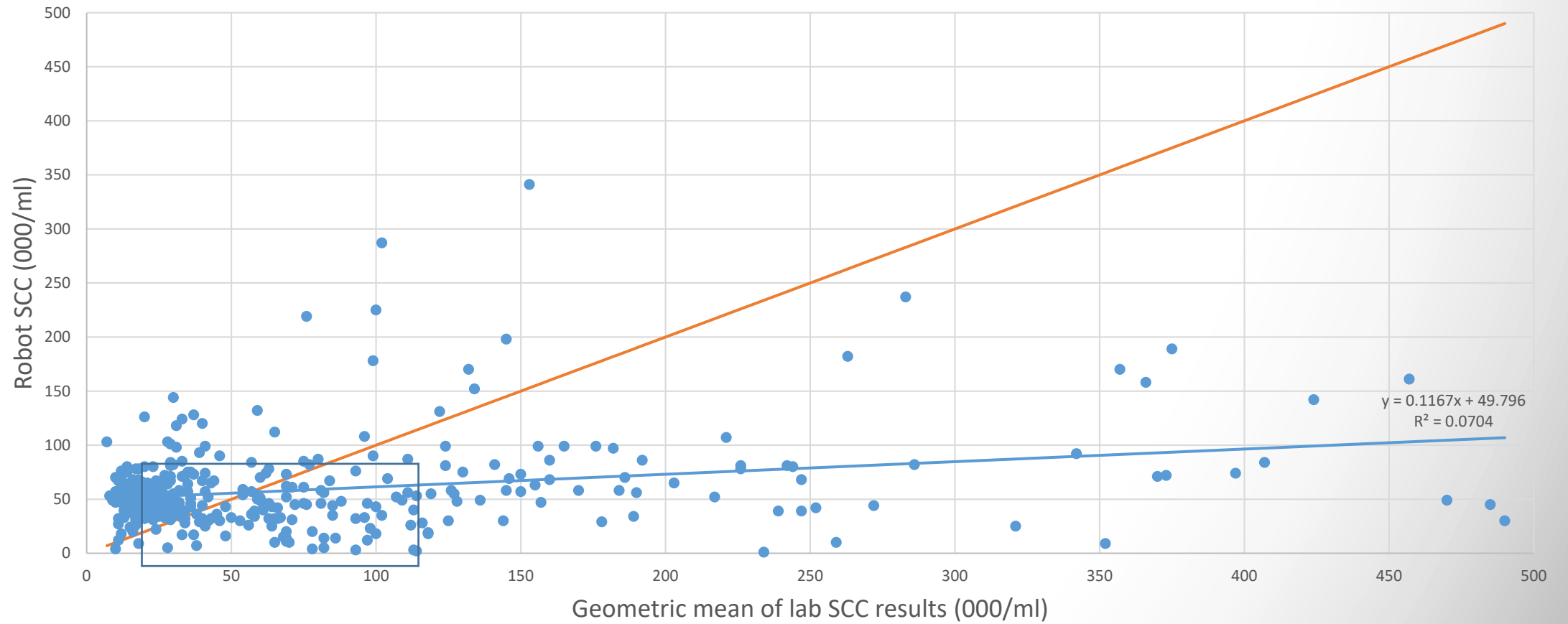


Results

CCC between milk fat percentages from the AMS sensors and the laboratory analysis of the 10 farms



Results - SCC

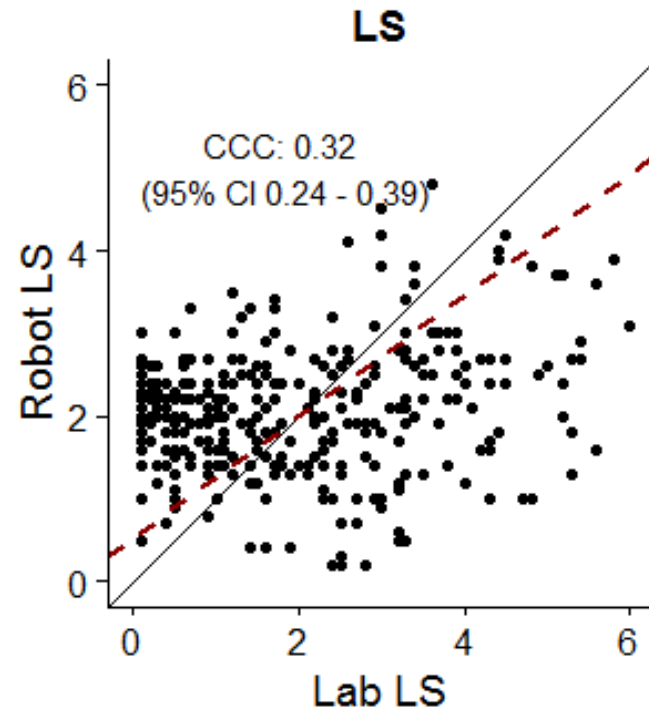
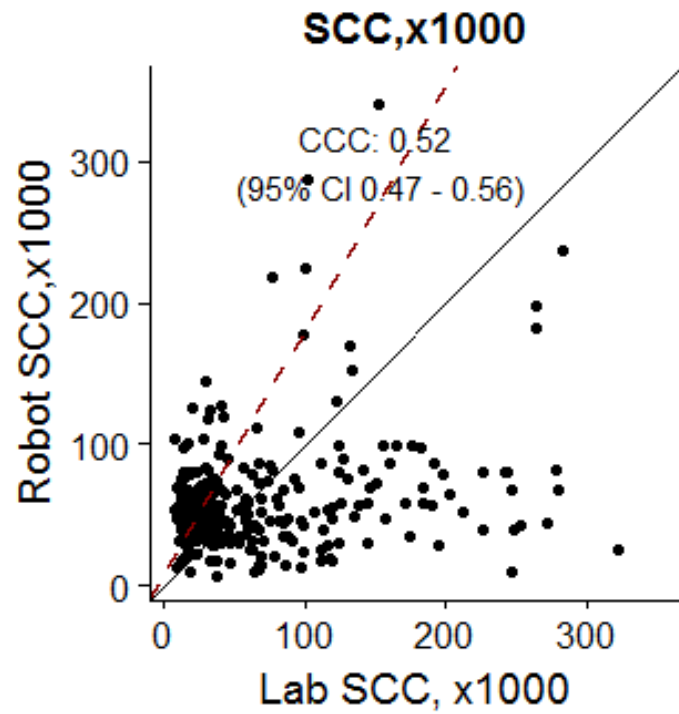


Results - SCC

valacta

valacta

CCC (average 10 farms)

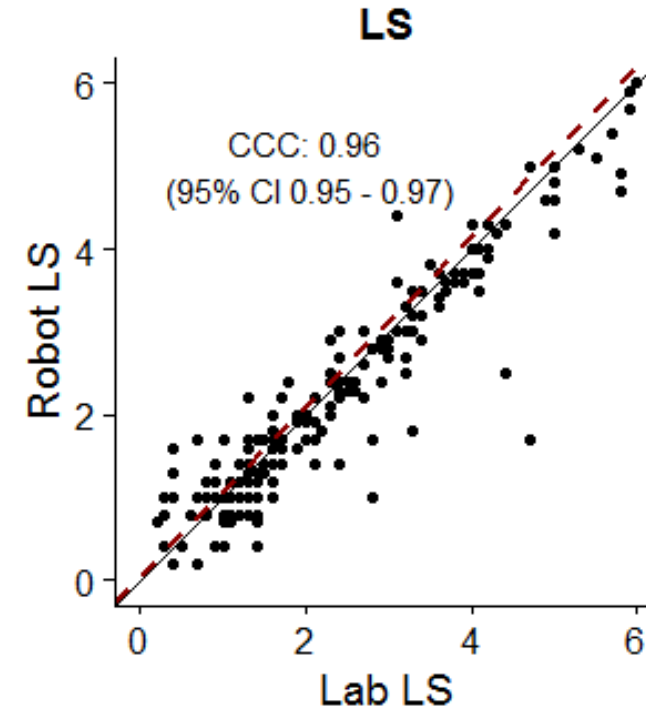
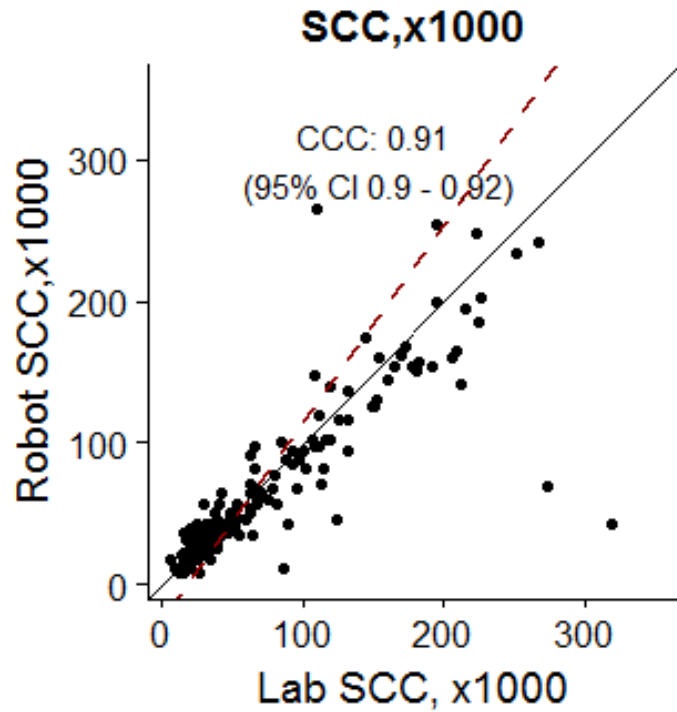


Results

valacta

valacta

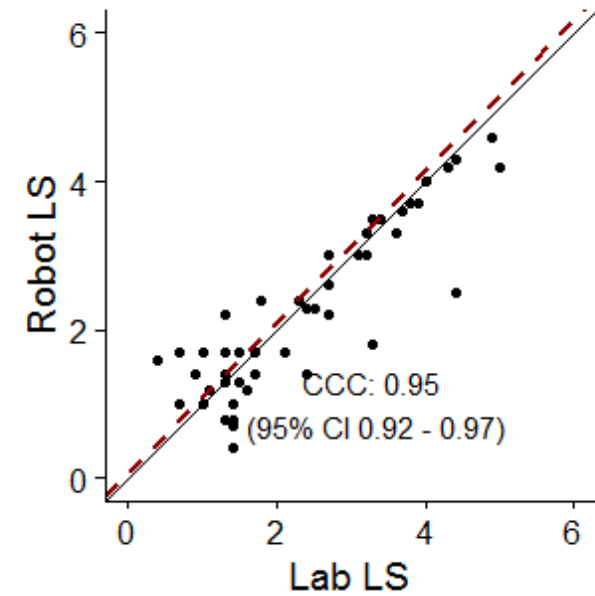
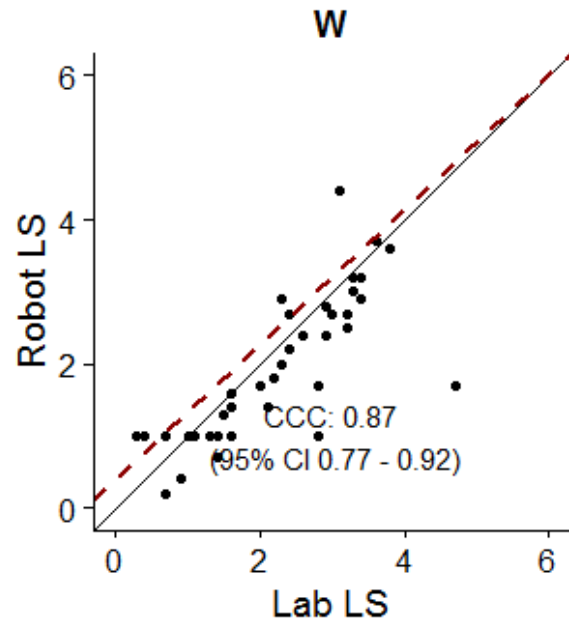
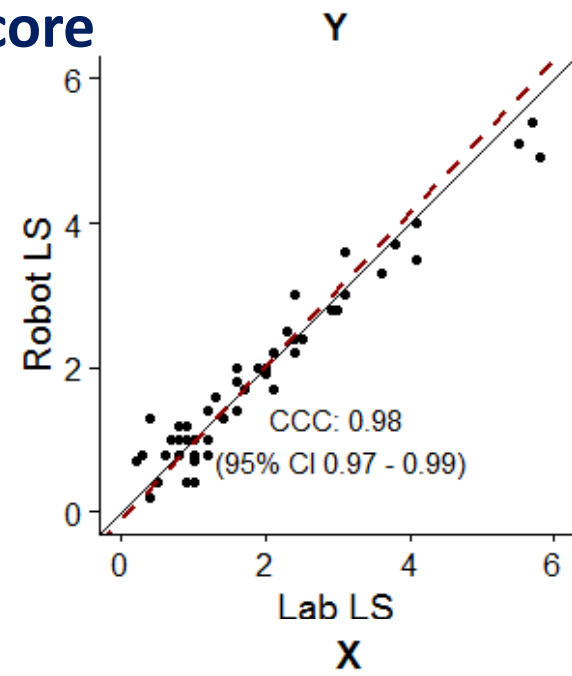
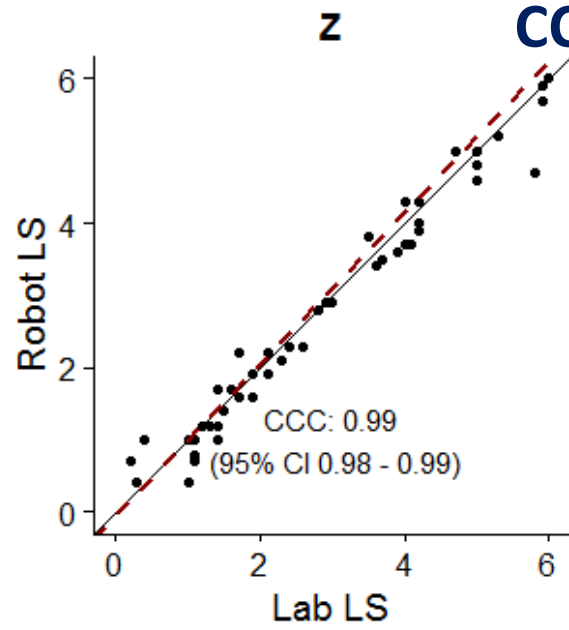
CCC (average 4 herds) DeLaval SCC



Differences between the SCC (x1000) were -66 ± 364 (MAE = 101)

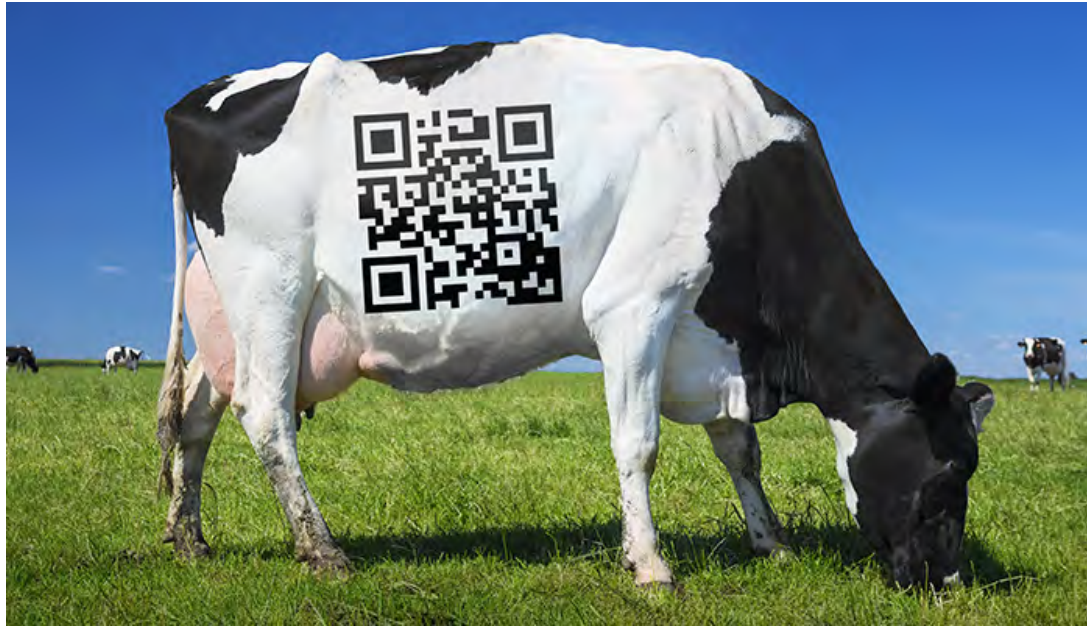
Results

CCC (by herd) DeLaval Linear Score



Data → Information

Source of Added Value for Milk Recording



- Enhance perceived value of traditional data
- Broaden data source
- Agregate multiple sources
- Facilitate access

Herd Management Score

Highlights Overall Management Excellence

1000 points based on 6 KPIs



Indicateurs
Milk Value
Age at First Calving
Herd Efficiency
Longevity
Udder Health
Reproduction

- National/Regional
- Robots/Free stall/Tie-stall
- Organic

Potential Gains:

Making DHI Data Make Economic Sen\$e



Analyse sommaire

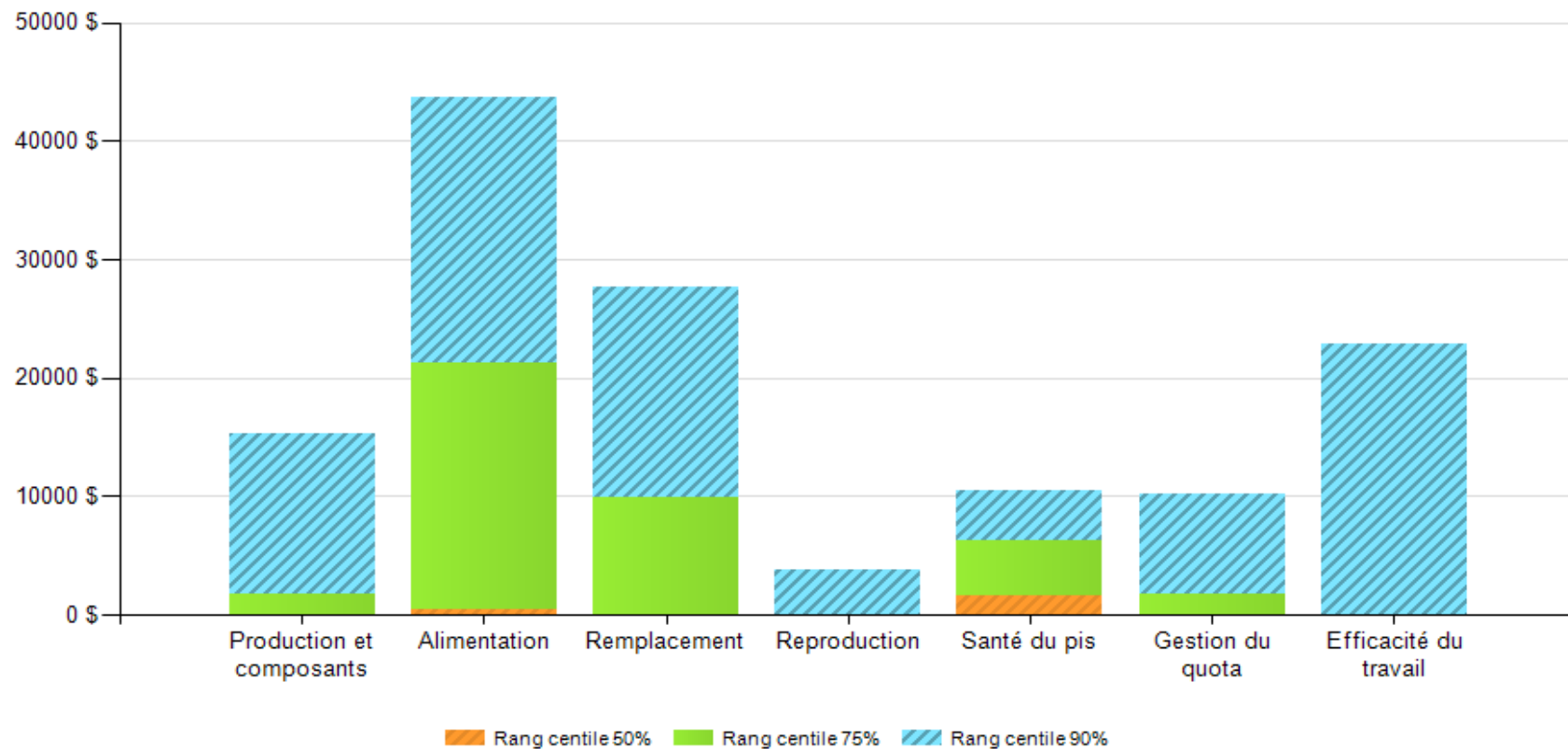
[Explications](#)

Troupeau:

Nom:
FERME BRAULT & FRERES INC. 256

Paramètres:

Date d'analyse: 2013-12-12 Date du test: 2013-11-27 Base d'analyse: Quota constant



Production et composants **Rang centile 90**

[Détails](#)
[Explications](#)

Troupeau:

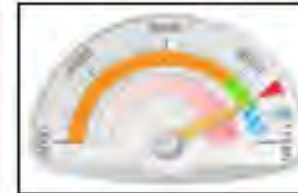
Paramètres:

Nom: Jean Untel Numéro: 99999 Date d'analyse: 2013-09-27 Date du test: 2013-08-02 Base d'analyse: Nombre de vaches constant

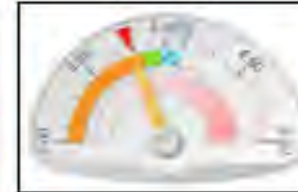
[Modifier les objectifs](#)

Résultats 12 mois	Troupeau	Référence	Écart	Objectif précédent	Objectif
Production de lait à 305 jours (kg)	10072	10807	735		10500
Marge par kg lait additionnel (\$/kg)			0.41		0.41
Écart par vache (\$/v/an)			301		175
Nombre de vaches (v)			58.2		58.2
Écart pour le troupeau (\$/an)			17,518 \$		10,185 \$
Teneur en gras à 305 jours (%)	3.78	4.10	0.32		4.10
Production kg gras additionnels (kg/v/an)			32.0		32.0
Marge par kg gras additionnel (\$/kg)			2.67		2.67
Écart par vache (\$/v/an)			85 \$		85 \$
Nombre de vaches (v)			58.2		58.2
Écart pour le troupeau (\$/an)			4,947 \$		4,947 \$
Teneur en protéine à 305 jours (%)	3.30	3.34	0.04		3.34
Production kg prot. additionnels (kg/v/an)			4.0		4.0
Marge par kg protéine additionnel (\$/kg)			3.58		3.58
Écart par vache (\$/v/an)			14 \$		14 \$
Nombre de vaches (v)			58.2		58.2
Écart pour le troupeau (\$/an)			815 \$		815 \$
Gain potentiel global (\$/an)			23,280 \$		15,947 \$

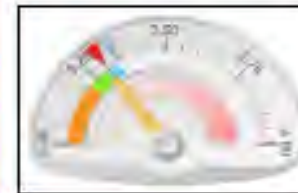
1. Production de lait à 305 jours (kg)



2. Teneur en gras à 305 jours (%)



3. Teneur en protéine à 305 jours (%)



- ▼ Objectif fixé pour le troupeau
- ▼ Valeur pour le troupeau au moment de fixer l'objectif
- ▲ Valeur actuelle pour le troupeau

DHI Animal Welfare Indicators?

Troupeau XXXX						
Stabulation Entravée						
Type de traite Lactoduc						
Indice confort continue 86e rang centile						
Indicateurs potentiels	2016	2017				
	Mon troupeau	Mon troupeau	Rang centile (Entravé)	Médiane (Entravé)	Haut 25% (Entravé)	
Longévité et réforme						
% longévité (% vaches lactation 3+)	xxx	51.2	86%	41.8	47.6	86%
% vaches réformées (réforme involontaire)	xxx	10.7	95%	27.9	12.1	95%
% vaches mortes	xxx	3.1	54%	3.5	1.4	54%
Alimentation et production						
% vaches avec urée basse (< 5 mg/dl lait)	xxx	0.0	passé	0.0	0.0	
Indice de régie (lait standardisé)	xxx	(954)	30%	(328)	394	30%
Indice de transition	xxx	-22	27%	232	496	27%
Profit à vie (rangs)	xxx	50.0	50%	51.0	75.0	50%
Génisses et taures						
% veaux morts	xxx	4.0	76%	7.5	4.0	76%
Age au premier vêlage (mois)	xxx	26.3	32%	25.5	24.7	32%
Santé et reproduction						
% avortements	xxx	0.0	passé	0.0	0.0	
% vaches avec BHB élevé (> 0.20 mmol/L lait)	xxx	0.0	passé	0.0	0.0	
% vaches avec CCS élevé (> 400.000/ml lait)	xxx	8.5	74%	12.5	8.2	74%
% vaches avec ratio protéine-gras élevée (> 1.1)	xxx	0.0	81%	2.2	0.0	81%

Évaluation des blessures

2027 MAKE BELIE

Ajouter une remarque

Jarret:

Genou:

Cou:

Retour Sauvegarder

État des trayons

5 SEP, '17 - 5 SEP, '17

1 100% 0 0% 4 25% 0 0%

■ Note 1-2
■ Note 3
■ Note 4

Reports

5 sept. '17 - 5 sept. '17

Vaches testées	1	Trayons testées	4
Note 3-4	100%	Note 3-4	25%
Note 4	0%	Note 4	0%

7 juil. '17 - 7 juil. '17

Vaches testées	1	Trayons testées	4
Note 3-4	100%	Note 3-4	25%
Note 4	0%	Note 4	0%

5 juin '17 - 5 juil. '17

Vaches testées	3	Trayons testées	12
Note 3-4	66%	Note 3-4	50%
Note 4	33%	Note 4	8%

Notez la propreté

Milk Recording



Herd

MILK kg
34.4

305 Milk Value
\$7,273

FAT / PROT kg
1.34
1.12

Lab Results



Gestalab

305 MILK kg
10633

SCC - PARITY
76 Lact 1
48 Lact 2
419 Lact 3+

SCC GROUP DISTRIBUTION

49 0-200
4 200-500
4 500+

BCAs - M/F/P
235
246
242

PROT - kg (%)

Search...

6973A WIDIA

Milk kg
F/P %
Dry Date
Times Bred

9962 LEGO

Milk kg
F/P %
Dry Date
Times Bred

8806 ZORA

Milk kg
F/P %
Dry Date
Times Bred

8454 MONALISA

Milk kg
F/P %
Dry Date
Times Bred

8385 MOMIE

Milk kg
F/P %
Dry Date
Times Bred

8378 CACHOU

Milk kg
F/P %
Dry Date
Times Bred

8377 VIDIA

Milk kg
F/P %



Lactation

Last calv

Repro st:

Last bre

Bred sire

Dry 60 d

Due date

Times br

Test milk

F/P %

BCAs

Current s

Tests > 2



UDDER HEALTH PROFIT

Costs for SCC

Clinical mastitis

+ Costs for culling

POTENTIAL SELECTIVE I

13

Treatments avoided

2035 CHLOE

Add a note



Front left teat:



Rear left teat:



Front right teat:



CANCEL

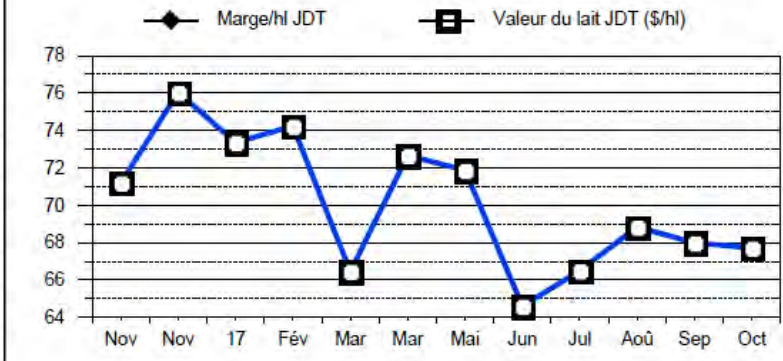
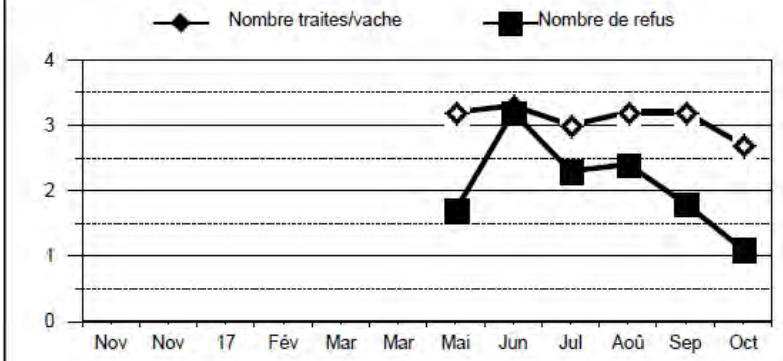
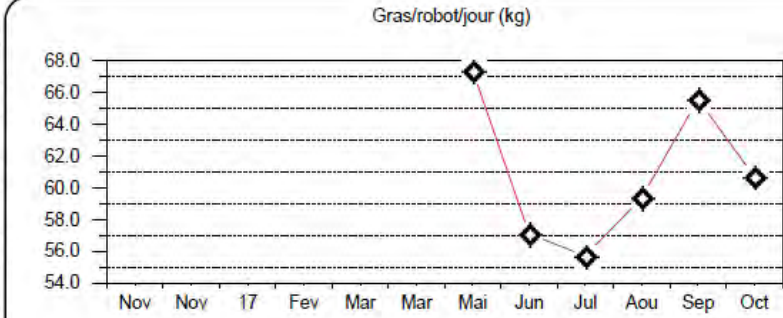
SAVE



Données du troupeau	Jour du test	12 mois	Moy. prov. robot	Moy. prov.
Nombre de vaches	64	59.7	96.9	59.5
Vaches en lactation	59	53	83.8	51.7
Lait réel (kg)	30.3	10644	10272	9716
Gras (%)	3.40	3.70	3.94	4.02
Protéine (%)	3.33	3.37	3.29	3.30
Pic de lait (kg)	39.7	43.5	42.2	39.8
Nombre JEL au pic	43	46	49	
Vaches sorties du troupeau (%)	.0	21.8	32.9	32.3
Vaches sorties - pieds (% du troupeau)		1.7	3.1	
Vaches sorties - CCS (% du troupeau)		3.4	3.8	

DONNÉES ROBOTS (7 jours)	Résultats	12 mois	Moy. prov. robot
Lait produit/robot (kg)	1658	1638	
Gras/robot (kg)	60.7	61	
Lait/vache/jour (kg)	29.6	31.7	
Nombre de vaches/robot	56.0	51.7	
Nombre de traites/robot	151	160	
Nombre de traites/vache	2.7	3.1	
Lait Moyen/traites (kg)	11	10.3	
Nombre de refus/vache	1.1	2.1	
Nombre d'échecs/robot	4.3	4.7	
Temps libre/robot (%)	26.4	24.5	

DONNÉES ÉCONOMIQUES	Jour du test	12 mois	Moy. prov. robot	Moy. prov.
Valeur du lait/vache (\$)	17.11	7275	6903	6949
Marge sur coût d'alimentation/vache (\$)			4653	4639.6
Valeur du lait (\$/hl)	67.71	70.46	71.3	73.87
Concentrés (\$/hl)			12.76	12.67
Coût aliments (\$/hl)			24.77	24.63
Marge sur coût d'alimentation (\$/hl)			49.19	49.76
Valeur du lait/robot (\$)	1089.93 ¹	1120.00		



Date : 17 octobre 2017

Nom de la ferme : Ferme Untel

valacta

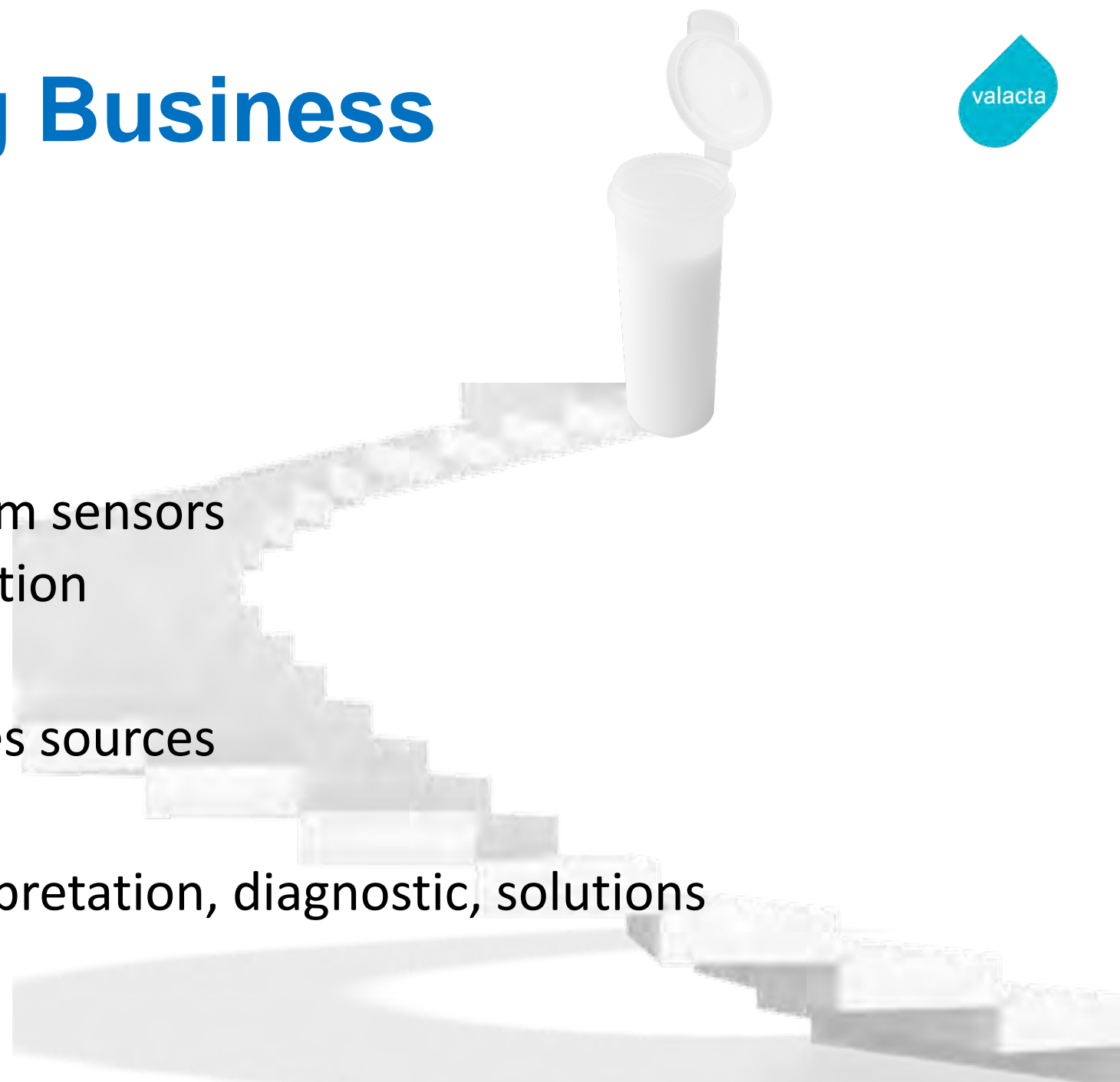
Valeur du lait / min de temps de box

N° d'animal	N°. lac.	Jours en lait	Vitesse de traite (7 jours)	Produc. lait / Min. dans box (7 jours)	Valeur du lait/min de box (\$) (7 jours)	Valeur relative de valeur du lait / min de box	temps de box / traite (7 jours)	Temps de box par jour (7 jours)	Moy. produc. par traite (7 jours)	Traites moyennes (7 jours)	prod journ 7 jours	Test de gras (kg/hl)	Test de prot (kg/hl)	LAS (kg/hl)
NoAn	NoL	JEL	VitTra	ProdMini	LaitMinBo	LaitMinBoxR	empBo	empBox	ProdTra	TraitMe	ProdJour	TestGra	TestPro	TestLA
		163	2.81	1.76	1.29 \$	100%	9.04	21.85	14.94	2.54	37.15	3.93	3.28	5.69
159	1	39	1.1	0.9	0.55 \$	42%	15.8	36.3	14.2	2.3	32.7	2.76	3.28	5.61
119	1	40	1.4	1.1	0.72 \$	56%	14.1	29.6	15.5	2.1	32.6	3.12	3.37	5.76
52	1	84	1.3	1	0.74 \$	58%	11.9	27.4	11.9	2.3	27.4	4.16	3.15	5.87
34	1	63	2.2	1.1	0.76 \$	58%	11.8	23.6	13.0	2.0	26.0	3.49	3.32	5.71
7	4	105	1.3	0.7	0.76 \$	59%	25.6	58.8	17.9	2.3	41.2	7.04	3.89	5.50
51	1	75	2.2	1	0.79 \$	61%	15.1	36.2	15.1	2.4	36.2	4.47	3.60	4.39
35	3	57	1.7	1.2	0.79 \$	61%	11.7	23.3	14.0	2.0	28.0	2.97	3.62	5.74
115	1	44	1.6	1.2	0.82 \$	63%	10.0	20.0	12.0	2.0	24.0	3.30	3.50	5.72
136	3	160	1.4	1.1	0.83 \$	64%	15.6	31.3	17.2	2.0	34.4	4.07	3.44	5.78
129	2	298	2.1	1	0.90 \$	69%	10.1	20.2	10.1	2.0	20.2	5.29	3.74	5.58
60	2	41	2.4	1.6	0.92 \$	71%	9.2	36.8	14.7	4.0	58.8	2.70	2.87	5.67
89	2	286	3	1.4	0.97 \$	75%	8.4	15.9	11.7	1.9	22.2	3.85	2.93	5.53
31	1	39	2.2	1.5	0.97 \$	75%	8.7	25.1	13.0	2.9	37.7	3.28	3.07	5.85
61	3	277	1.5	1.2	0.98 \$	76%	15.5	29.5	18.6	1.9	35.3	4.76	3.35	5.48
50	1	130	3.6	1.6	0.98 \$	76%	7.7	22.3	12.3	2.9	35.7	3.17	2.75	5.75
72	2	8	2.1	1.4	1.01 \$	78%	7.8	18.7	10.9	2.4	26.2	3.88	3.26	5.74
27	1	53	2.1	1.5	1.01 \$	78%	8.7	21.0	13.1	2.4	31.4	3.49	3.15	5.80
81	4	87	1.6	1.3	1.01 \$	78%	17.2	44.6	22.3	2.6	58.0	4.46	3.24	5.72
127	7	212	2.1	1.1	1.03 \$	80%	21.4	21.4	23.5	1.0	23.5	5.79	3.58	5.69
19	1	83	2	1.4	1.04 \$	80%	10.9	15.2	15.2	1.4	21.3	4.07	3.23	5.81
29	1	261	2.4	1.4	1.05 \$	81%	9.9	19.9	13.9	2.0	27.8	3.82	3.71	5.82

DHI-An Evolving Business



- Added Value milk tests
 - Simple and Convenient
 - Cost-effective
 - Link to other data
 - One step ahead of on farm sensors
 - Key to maintain participation
- Data
 - Integration from multiples sources
- Advice/Outreach
 - Highlight the value: interpretation, diagnostic, solutions
- Collaboration





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Daniel Lefebvre dlefebvre@valacta.com **@DanielMLefebvre**





THE GLOBAL STANDARD
FOR LIVESTOCK DATA

Network. Guidelines. Certification.

Setting the Scene

Silvia Orlandini

Milk Analyses Certification

ICAR

silvia@icar.org

Servicing laboratories and Quality Assurance tolls



THE GLOBAL STANDARD
FOR LIVESTOCK DATA

Annual Conference

ICAR2018.NZ

7 - 11 February 2018

Aotea Centre

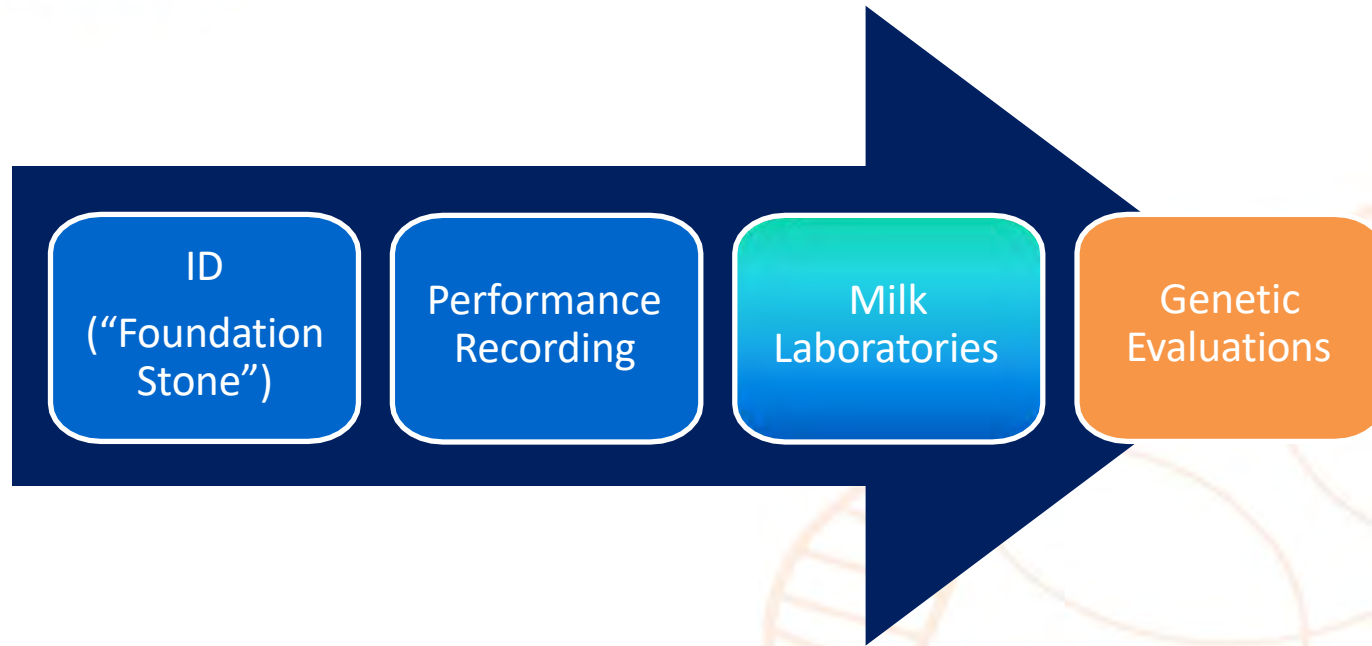
Auckland,

New Zealand



Content

ICAR's Building Blocks



Content

ICAR Tools for the Milk Analyses

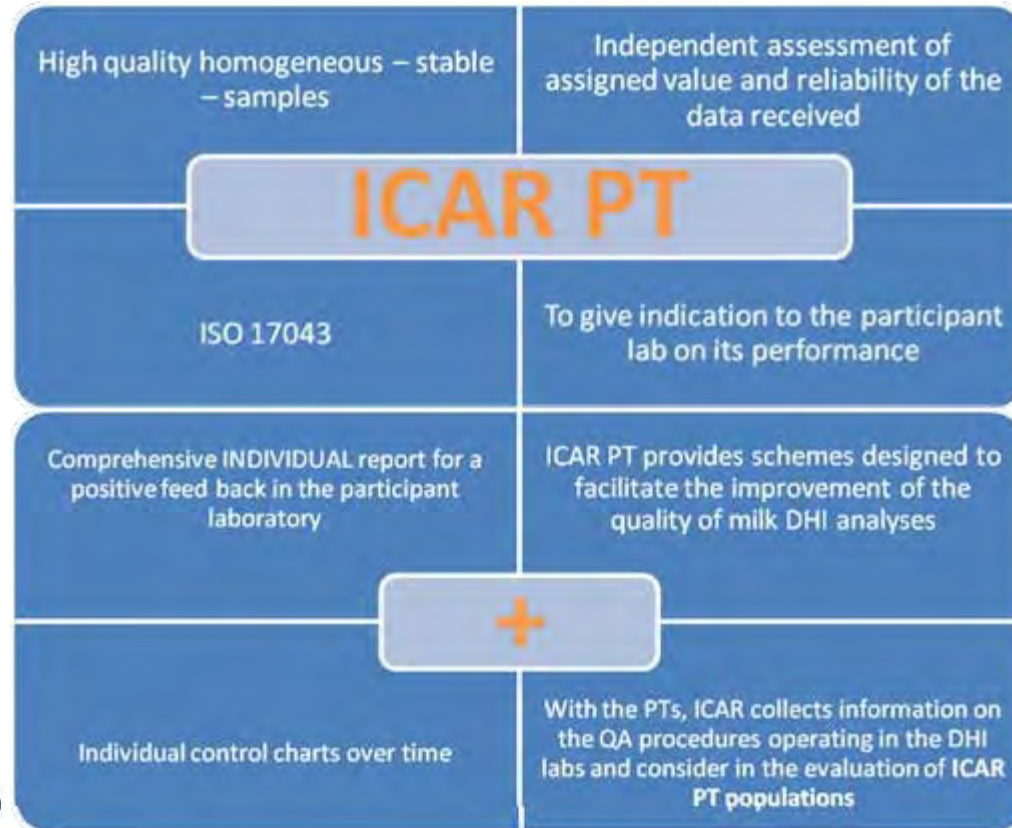
To promote and to maintain in the ICAR dairy laboratories the **highest** possible standard of **accuracy** and **precision** to built confidence in the comparability of measurements

ICAR Proficiency Test (PT)

ICAR Milk Analyzers Certification



Content **Laboratory** benefit to participate in...



Laboratory benefit to manage own PT

Content



Routine Methods
Laboratory participation codes and Performance analyses

ICAR PT
RT0917

Laboratory Name:

Your participation Codes

Subscription	FA _{acid}	Protein _{acid}	Lactose _{acid}	LHA _{acid}	SH-B	RAQ
participation codes	Yes	Yes	Yes	Yes	NO	NO
Are all the sample results received?	Yes	Yes	Yes	Yes	NO	NO

Data results received on time

Yes 14-09-2017

Have you sent the data with the correct units of measurements?

FA _{acid}	Protein _{acid}	Lactose _{acid}	LHA _{acid}	SH-B	RAQ
g/100g	nitrogen g/100g	g/100g	mg/g	mmol/L	
Yes	Yes	Yes	Yes		

* It was requested to input the value in total nitrogen

Ranking of your lab

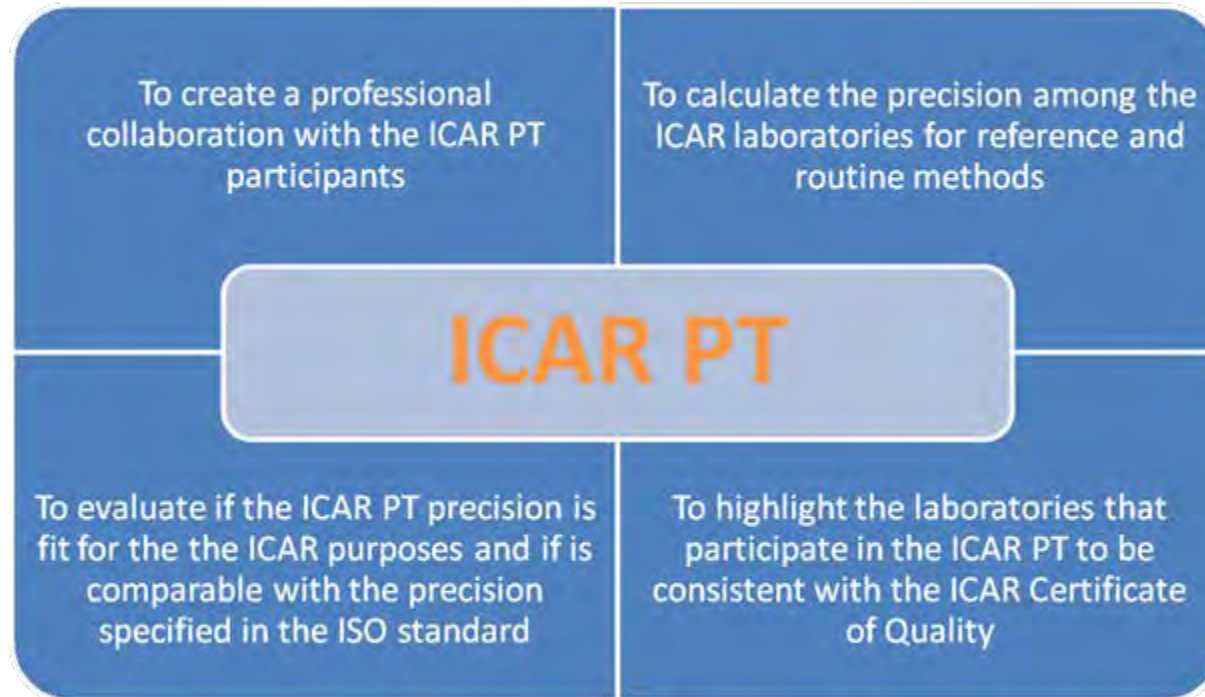
	FA _{acid}	Protein _{acid}	Lactose _{acid}	LHA _{acid}	SH-B	RAQ
Code	g/100g	nitrogen g/100g	g/100g	mg/g	mmol/L	
%	3	3	3	2		
SD	90	41	87	90		
D	0.031	0.016	-0.056	-0.051		
SB	0.111	0.025	0.017	0.026		
Method	JK	JK	JK	JK		

Outliers

	FA _{acid}	Protein _{acid}	Lactose _{acid}	LHA _{acid}	SH-B	RAQ
Sample 1	g/100g	nitrogen g/100g	g/100g	mg/g	mmol/L	
Sample 2						
Sample 3						
Sample 4						
Sample 5						
Sample 6						
Sample 7						
Sample 8						
Sample 9						
Sample 10						

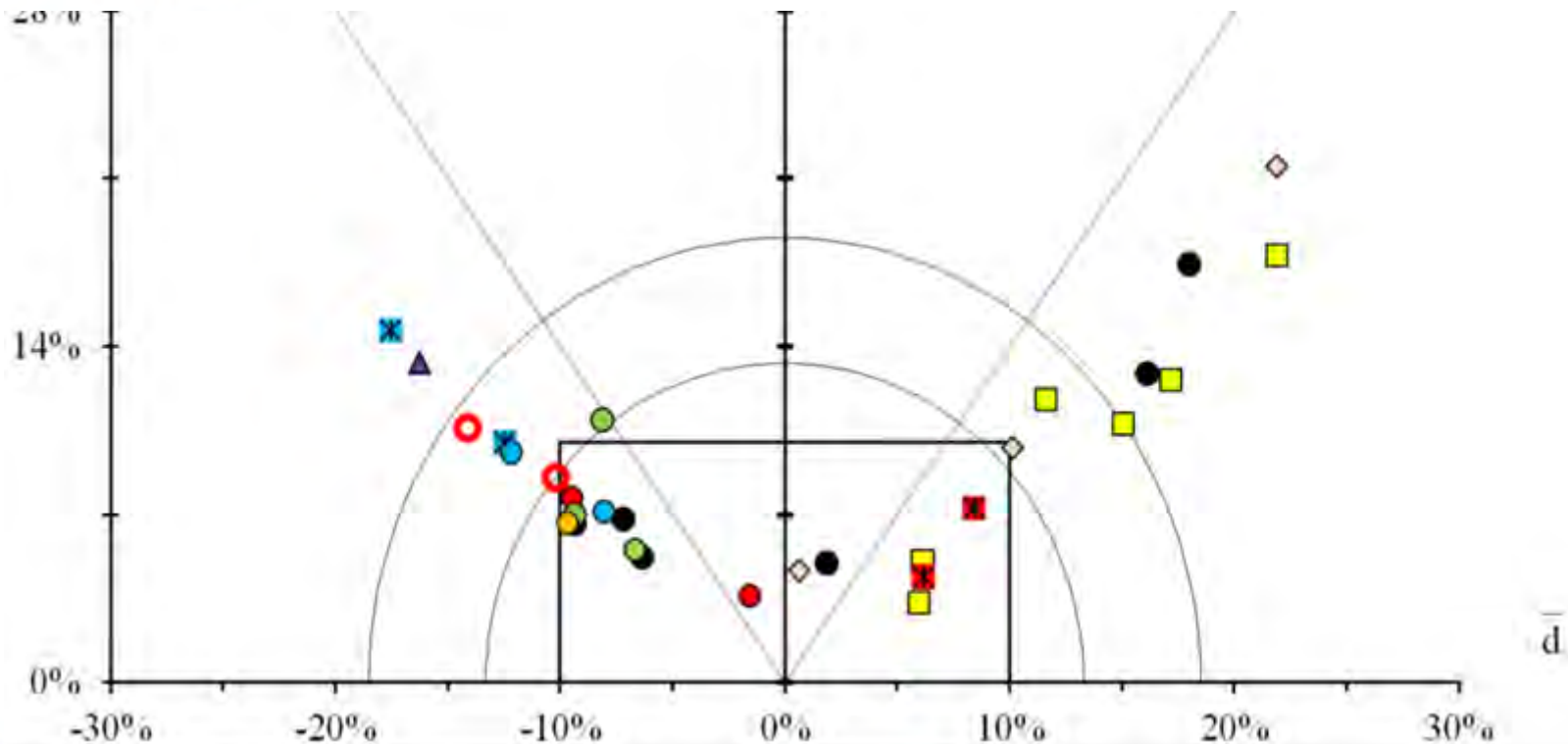


Content **ICAR** benefits to manage own PT



ICAR benefits to manage own PT

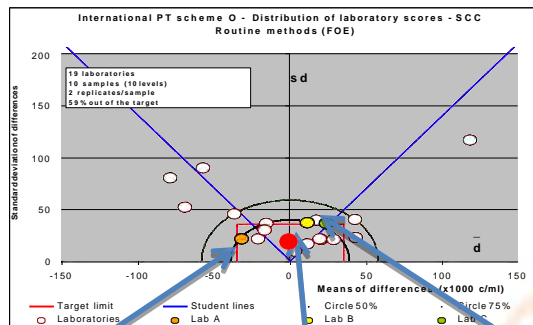
Content



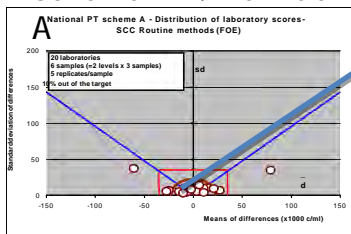
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ICAR benefit to manage own PT

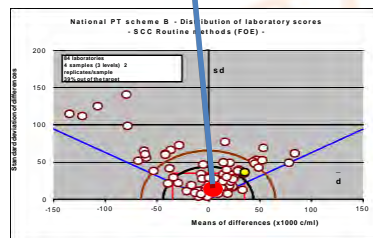
Scheme O



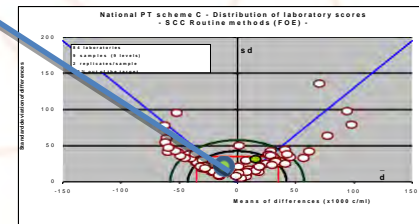
Scheme A ⇒ Ref Lab



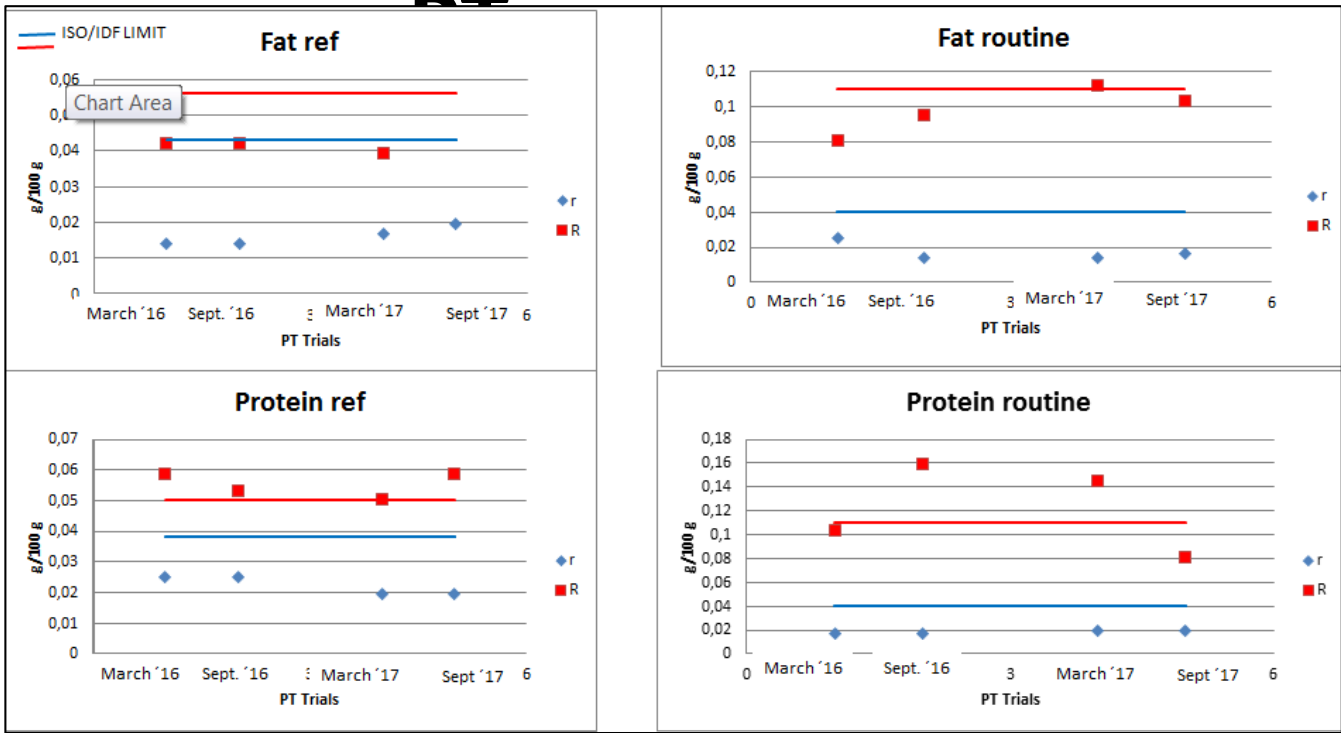
Scheme B ⇒ Ref Lab B



Scheme C ⇒ Ref Lab C

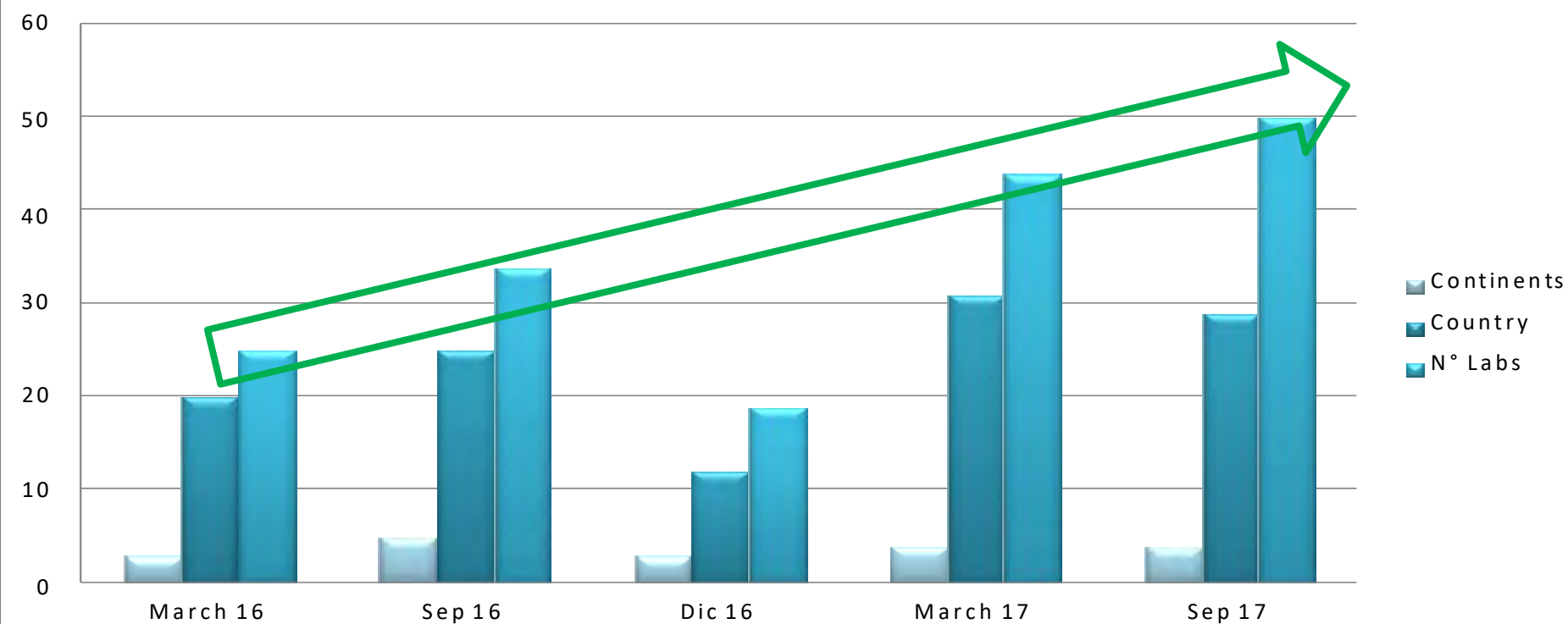


Content ICAR benefits to manage



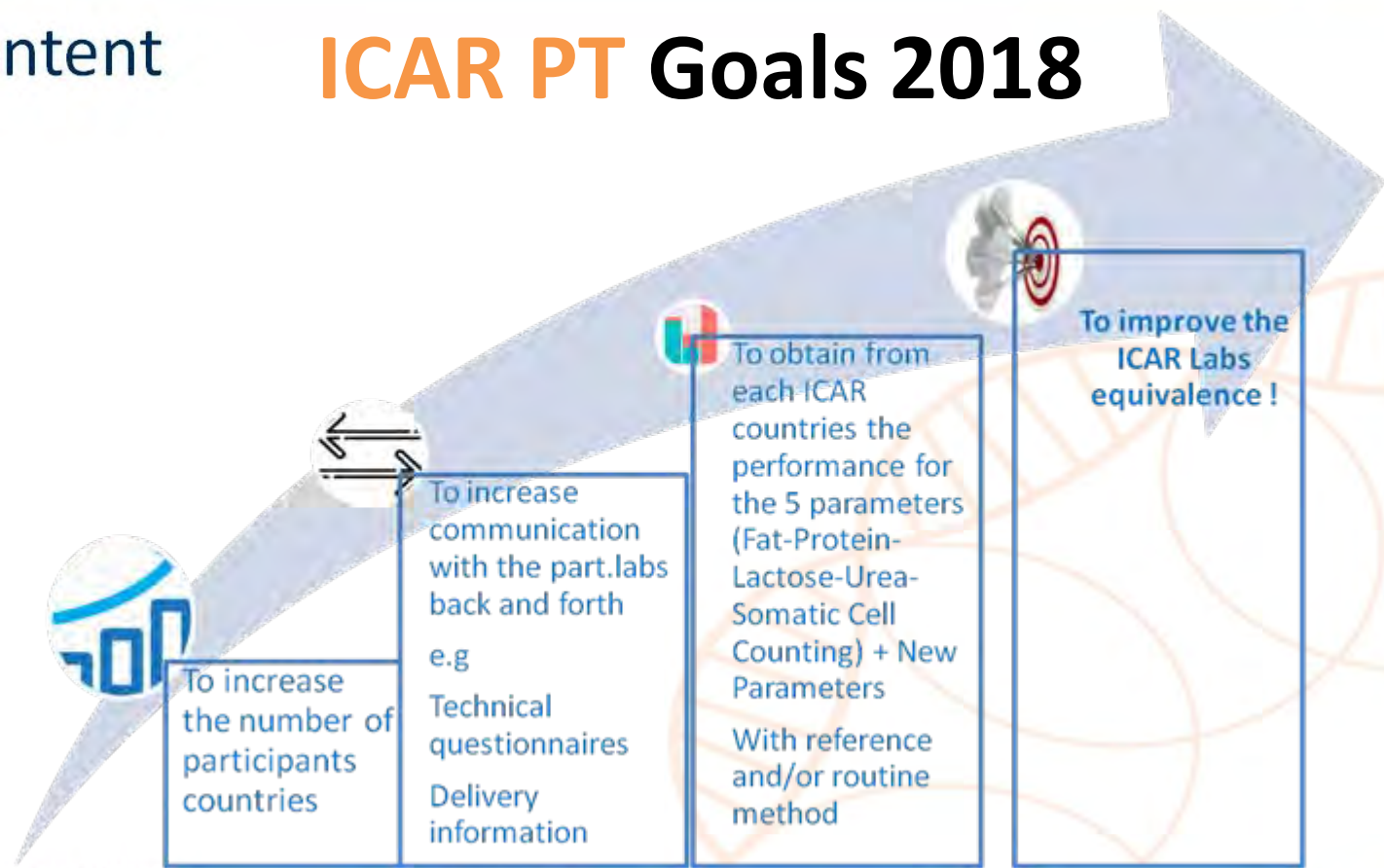
Participants March 2016-Sept. 2017

Number of Continents-Countries-Labs



Content

ICAR PT Goals 2018



To increase the number of participants countries

To increase communication with the part.labs back and forth
e.g
Technical questionnaires
Delivery information

To obtain from each ICAR countries the performance for the 5 parameters (Fat-Protein-Lactose-Urea-Somatic Cell Counting) + New Parameters
With reference and/or routine method

To improve the ICAR Labs equivalence !

MILK ANALYZERS CERTIFICATION

Grandfather Exception Certification

1 application in 2017 and certification released

New Model Instrument Certification



ICAR LABs

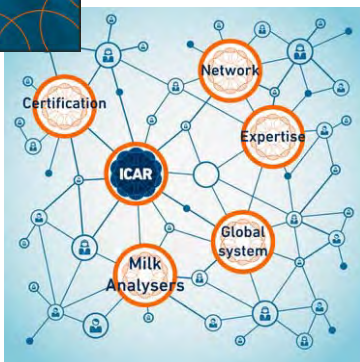
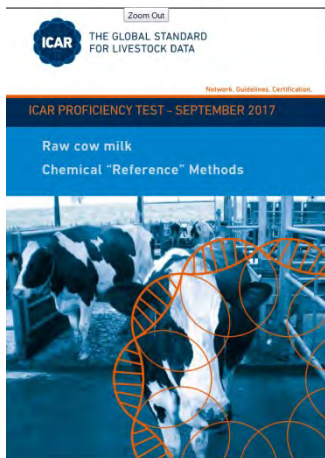
Objective evidences of the instrument performance

Indications on the best use for ICAR purposes

According ICAR protocol and ISO 8196-3 IDF 128-3



Content



Conclusions

ICAR is offering this initial Quality Assurance tools in milk analyses to create technical connections valuable exchange of practical aspects regarding the protocols application

The network is useful to collect also the future needs of DHI milk laboratories
For the coming analytical challenges !

...new activities and service will come





THE GLOBAL STANDARD
FOR LIVESTOCK DATA

Network. Guidelines. Certification.

Thank you

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