Implementing milk recording in developing countries

Humberto Monardes
McGill University - Valacta
Canada
Originally, Valacta was named PATLQ/QDHAS: Quebec Dairy Herd Analysis Service

It was a milk recording agency, founded in 1966 by Dr John E. Moxley, Professor of Animal Genetics at McGill University
Since 1998, the Canadian agencies work in partnership under the name *Canadian Dairy Herd Improvement (CDHI)* and one program, Vision 2000.
Valacta is a Centre of Expertise in Dairy Production that belongs to producers
Key milk recording elements at Valacta

1. Routine measurement of performance indicators in animals
2. Recording data collected in the field
3. Data analysis and processing
4. Data Interpretation
5. Use data for management decision making
• 215 Field staff (4 regions)
• 35 Laboratory
• 21 IT + Customer Service
• 15 Administration (incl. HR, Communication and QA)
• 15 R&D

~300 employees
• Individual cows’ milk
• Feed analysis
• Milk quality
• Reference lab
• Bulk tank milk for payment

• ISO 17025 accredited
Canadian milk recording and its associated activities has helped to take Canada from a discreet place in the world dairy industry 50 years ago, to a world leadership in productivity, quality of dairy products, industry performance and rural equity.
Valacta around the world

Ukraine
Brazil
Paraguay
Argentina
China
From Milk Recording to Dairy Herd Management Services in Brazil
Improvement of Teaching, Research and Extension through the creation of a Dairy Management Service operated and used jointly by university, breeders and dairy coops in the state of Paraná, Southern Brazil

A ICDS/CIDA project

1987-1992

Executing Agency: McGill University
Partners: PATLQ-QDHAS, UFPR, APCB, OCEPAR
Funding Agency: CIDA
Main objectives

• Develop milk recording operations and services to producers.
• Training of programmers, field staff, lab technicians and other professionals.
• Assist to exploit milk recording as a management tool.
• Organize round tables, symposia, meetings, in Brazil.
• Purchase of main lab equipment.
• Applied research using the data bank.
Phase I
Paraná Dairy Herd Analysis Program
- PARLPR

A Program of APCB
Execution: UFPR and McGill
1987-1992
Phase II
Extension and Rural Development in Dairy Production in Brazil.

An ICDS/CIDA project
1993-1997

Executing Agency: McGill University
Partners: PATLQ, UFPR, APCBRH
Funding Agency: CIDA
Main objectives of Phase II

- Improve rural extension for dairy production.
- Improve teaching capabilities of UFPR
- Collaborative research in genetics and nutrition of cows using the newly built data bank.
- Implement a feed analysis service
- Purchase a NIRS feed analyzer
Quantifiable outputs from the project, 1997.

- Students trained at the M.Sc. and Ph.D level at McGill.
- Veterinarians, agrologists and field supervisors trained in Brazil.
- Nutritionists from Coops on short intensive training at McGill.
- Organization of three symposia in the state of Paraná.
- Milk analysis lab capability expanded to 60,000 samples per month.
# Herds and cows on milk recording in the state of Paraná, Brazil

<table>
<thead>
<tr>
<th>Year</th>
<th>Herds</th>
<th>Cows</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>236</td>
<td>9,276</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>304</td>
<td>13,501</td>
<td>Full lab operation</td>
</tr>
<tr>
<td>2006</td>
<td>231</td>
<td>19,181</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>474</td>
<td>39,698</td>
<td>+150,000 BT</td>
</tr>
</tbody>
</table>
Outreach activities. The state of Rio Grande do Sul built at its UPF (Passo Fundo) a central dairy laboratory and 50 professionals are trained as dairy nutritionists.
Outreach: Knowledge Exchange for Capacity Building Small Dairy Farmers in Northeast Brazil
The Brazilian Milk Quality Network

UFRA – Belem-PA (Project)

EMBRAPA – Porto Velho – RO (Project)

UNIVATES

EMBRAPA - RS

TEASER

UFRPE - PROGENE

UFG - LQL

UFGM – LAB.LEITE

LANAGRO

EMBRAPA - MG

USP–CLINICA LEITE

APCBRH - PARLPR

CIDASC - UNC

UPF - SARLE
## Milk recording, Brazil, 2015

<table>
<thead>
<tr>
<th>States prov. services</th>
<th>Herds</th>
<th>Cows</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paraná</td>
<td>474</td>
<td>39698</td>
<td>58,7</td>
</tr>
<tr>
<td>São Paulo</td>
<td>77</td>
<td>9051</td>
<td>13,4</td>
</tr>
<tr>
<td>Minas Gerais</td>
<td>108</td>
<td>8252</td>
<td>12,2</td>
</tr>
<tr>
<td>Rio Grande do Sul</td>
<td>106</td>
<td>3613</td>
<td>5,3</td>
</tr>
<tr>
<td>Santa Catarina</td>
<td>89</td>
<td>3141</td>
<td>4,6</td>
</tr>
<tr>
<td>Goias</td>
<td>22</td>
<td>2093</td>
<td>3,1</td>
</tr>
<tr>
<td>Espirito Santo</td>
<td>28</td>
<td>1519</td>
<td>2,2</td>
</tr>
<tr>
<td>Pernambuco</td>
<td>11</td>
<td>212</td>
<td>0,3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>915</td>
<td>67579</td>
<td>100</td>
</tr>
</tbody>
</table>
From Milk Recording to Dairy Herd Improvement in Argentina
Rural Development and Technology Transfer in the Dairy Sector in the Province of Santa Fé, Argentina

A Canada-Southern Cone Technology Transfer Fund

2000-2005

Executing Agency: McGill University
Partners: QDHAS-PATLQ, ALECOL
Funding Agency: CIDA
Goal and objectives of the Argentina Project

• Goal: To assist in the development of the dairy sector in Argentina.
• To upgrade knowledge and skills of professionals, technicians and producers.
• Use milk recording as a management tool.
• To create a centralized dairy management system providing technical services to producers.
• To facilitate the empowerment of farmers to negotiate and commercialize their milk.
Regional Laboratory for Analytical Services (LARSA), ALECOL, Esperanza, Santa Fe, Argentina. 2004
### Regional Laboratory for Analytical Services (LARSA), ALECOL, Esperanza, Santa Fe, Argentina. 2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Entities</th>
<th>Herds</th>
<th>Cows</th>
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<tbody>
<tr>
<td>1992</td>
<td>12</td>
<td>503</td>
<td>59 536</td>
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<tr>
<td>1995</td>
<td>16</td>
<td>727</td>
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<td>2000</td>
<td>19</td>
<td>613</td>
<td>107 271</td>
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<td>610</td>
<td>118 866</td>
</tr>
<tr>
<td>2010</td>
<td>21</td>
<td>696</td>
<td>142 021</td>
</tr>
<tr>
<td>2015</td>
<td>20</td>
<td>492</td>
<td>115 128</td>
</tr>
</tbody>
</table>
Outreach?

Rural Development and Technology Transfer of the Dairy Sector in the Province of Entre Rios, Argentina

A Canada-Southern Cone Technology Transfer Fund 2005

Executing Agency: McGill University
Funding Agency: CIDA
Phase I
Improvement of the Competitiveness of the Dairy Sector in Paraguay, especially the coops associated to FECOAGRO.
Building a Milk Analysis Lab

2007 - 2012

Executing Agency: SOCODEVI
Consulting partner: Valacta
Funding: ACDI-CIDA, BID, FECOAGRO
Our commitment to the development of the Ukrainian dairy sector
Ukraine Dairy Business Development Project (2014-2021)

Executing Agency: SOCODEVI
Consulting partner: Valacta
Funding: ACDI-CIDA, Ukraine Local gov.
SOCODEVI

- A network of cooperatives that share their technical expertise and knowledge with partners in developing countries such as Ukraine

PROJECT

- 2 locations: L’viv (Western UA) and Dnipropetrovsk (Eastern Ukraine)
- Three main components:
  - Development of the dairy sector — Where Valacta is mandated
  - Development of the grain sector in small communities
  - Gender project
Ukraine Dairy Business Development Project
(2014-2021)
phase II

Executing Agency: SOCODEVI
Partners: UA Gov., Heifer Int., Danone, Valacta, LADS, DAAS
Funding Agency: CIDA
Objectives (2014-2018)

SOCODEVI is using the expertise of VALACTA for the implementation of both DMS.

1. Training staff for extension services
2. Building two dairy labs in two ukrainian provinces
3. Data processing
4. Organizational structure and business model for two Dairy Management Services in Lviv and Dnipro
EXTENSION SERVICES STAFF TRAINING PROGRAM

In a class room  In the field  In the barn
LABORATORY COMMISSIONING

Training in Canada
July 2015
Challenges

• Family farms on MR? Coops to the rescue!
• Central laboratory services...the lab is power!
• Capacity building... where to start?
• Definitely lost in translation!
• Habits and customs (3x milkings, winter feed, safety, seasonality)
• Milk quality
• Quod scriptum est Manet...that is written, remains, even if it is garbage. Garbage in, garbage out!
• The market
Big Challenge

The recording of animal performance is useless unless the data are subsequently used to improve production, productivity or product quality.  

(FAO, Rome, 1998)

Will the market help?

Quod scriptum est manet
Challenges for ICAR....

• Members of ICAR will change. ICAR members in 2025 will may be different from the members we have now. (Wilmink, 2014)

• Dairy products are on greater demand and consumers want availability, accessibility, quality and environmental sustainability.

• It is estimated that, throughout the world, almost 150 million farm households are engaged in milk production. (IFCN, 2015)
Lessons learnt

• It’s a lifelong partnership
• Be creative... adapt and improvise!
• The perennity of milk recording depends on its adoption
• Technology is not enough,... Human beings are the true responsible for the succes or the failure.
Acknowledgements

(in order of appearance)

• Elliot Block
• Javier Burchard
• Newton Pohl Ribas
• José Augusto Horst
• João Walter Dürr
• Severino B. Paes Barbosa
• Carlos Chiavassa
• Eduardo Baravalle

• Camil Coté
• Martin Beaurivage
• Ivan Pankiv
• Maksym Maksymov
• Anne-Marie Christen
• Daniel Lefebvre
Thank You!