Sub-Committee on Milk Analysis

- Report of activities in 2006-2008 -

Ch. Olivier Leray
NAME

From Kuopio 2006

Working Group on Milk testing Laboratories
MTL WG
⇓
Sub-Committee on Milk testing Laboratories
MTL SC
⇓
Sub-Committee on Milk Analysis
MA SC
**MA SC membership**

10 members

<table>
<thead>
<tr>
<th>MA SC members</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christian BAUMGARTNER</td>
<td>Germany</td>
</tr>
<tr>
<td>Egil BRENNEN</td>
<td>Norway</td>
</tr>
<tr>
<td>Roberto CASTAÑEDA</td>
<td>Argentina</td>
</tr>
<tr>
<td>Marina GIPS</td>
<td>Israël</td>
</tr>
<tr>
<td>Olivier LERAY (Chair)</td>
<td>France</td>
</tr>
<tr>
<td>Silvia ORLANDINI</td>
<td>Italy</td>
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<tr>
<td>George PSATHAS</td>
<td>Cyprus</td>
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<tr>
<td>John RHOADS</td>
<td>USA</td>
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<tr>
<td>Gavin SCOTT</td>
<td>New Zealand</td>
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<tr>
<td>Harrie VAN DEN BIJGAART</td>
<td>The Netherlands</td>
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MA SC membership

1- Retirement:  Ugo PAGGI (AIA-LSL, IT)

2- New member from 2006:
   > Silvia ORLANDINI (AIA-LSL, IT)
   > Roberto CASTANEDA (INTI -LACTEOS, AR)

3- Extension (under consideration)
   to African & Asian areas
MA SC meeting(s) since ICAR Session 2006:

- Kuopio (Finland) : 6 June 2006
  - 35th Biennial ICAR Session

- Münich (Germany) : 23 May 2007
  - IDF/ISO Analytical Week 2007

- Montreux (Switzerland) : 22 May 2008
  - IDF/ISO Analytical Week 2008

- Niagara Falls (USA) : 17 June 2008
  - 36th Biennial ICAR Session
Project meetings (special issues):

- Rome (IT) : 18-19 October 2007
  - Project groups: Reference system; Education & Training

- Rome (IT) : 27 November 2007
  - OMA WP: 1st meeting ⇒ Guidelines on On-farm MA

- Berlin (DE) : 20-21 January 2008
  - Project group Reference system: Joint ICAR/IDF meeting on SCC

- Niagara Falls (USA) : 17 June 2008
  - OMA WP: 2nd meeting
Terms of reference

1. Contribute to adequate analytical performance quality for milk recording purposes worldwide that does allow valid comparisons between ICAR countries.


3. Maintain a frame for analytical quality assurance of milk testing laboratories through recommendations to ICAR member organisations and an international network of reference laboratories.

4. Monitor the development of instruments for milk analysis of interest for milk recording and equipment related to milk recording analysis (sampling, in-farm analysis, data capture/transfer). In doing so the Group should keep in contact with, manufacturers, ICAR Sub-Committees and Working Groups in those areas.

5. Advise ICAR on new developments in the field of analytical methods, analytical quality assurance and milk testing laboratories.

6. Establish and maintain liaisons with international organisations / bodies involved with respect to milk analysis issues dealt by ICAR, in particular IDF and ISO.
Current programme of work

✓ Guides & protocols
✓ Standardisation of methods of milk analysis (IDF/ISO)
✓ Laboratory harmonisation
✓ Prospect on analytical methods/systems and connected devices
✓ Communication
Organisation in projet groups (work items) with pluri-annual programme

<table>
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<tr>
<th>Work item</th>
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<tbody>
<tr>
<td>Theme</td>
<td>Analytical QA (toolbox)</td>
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<td>Laboratory network &amp; harmonisation</td>
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<td>International coordination &amp; consistence</td>
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<tr>
<td>Title</td>
<td>Guidelines on organising proficiency study</td>
<td>Guidelines on organising centralised calibration</td>
<td>Guidelines on on-farm analytical devices</td>
<td>Reference materials</td>
<td>ICAR approval of new milk analysers</td>
<td>On-line questionnaire on laboratory situation within ICAR</td>
<td>Website data base on laboratories of ICAR countries</td>
<td>International proficiency studies</td>
<td>Reference Laboratory Network meeting</td>
<td>Education &amp; training on analytical matters</td>
<td>Liaison to other (international) groups of experts</td>
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<tr>
<td>Experts</td>
<td>O Leray</td>
<td>G Psathas</td>
<td>S Orlandini</td>
<td>C Baumgartner</td>
<td>O Leray</td>
<td>G Psathas</td>
<td>O Leray</td>
<td>G Psathas</td>
<td>+ ICAR HD</td>
<td>O Leray</td>
<td>S Orlandini</td>
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<td>Objectives</td>
<td>ICAR guidelines and IDF/ISO IS</td>
<td>ICAR guidelines and IDF/ISO IS</td>
<td>ICAR guidelines</td>
<td>To be considered</td>
<td>Eval. report examination / advising ICAR</td>
<td>Two-yearly information</td>
<td>Regular updated information</td>
<td>Evaluation services</td>
<td>Two-yearly information</td>
<td>Improving laboratory testing performances</td>
<td>Information and feedback / Horizontal work</td>
</tr>
<tr>
<td>2007</td>
<td>- Introduction</td>
<td>- Introduction</td>
<td>- Introduction</td>
<td>- Outlines</td>
<td>On-going process</td>
<td>- Provision of information</td>
<td>- Guidelines on RM Qualification</td>
<td>- Qualifying RMs</td>
<td>Annual Programme</td>
<td>Programming</td>
<td>Elaboration of supports for teaching/training (movies on methods)</td>
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<tr>
<td>2008</td>
<td>Working draft</td>
<td>Working draft</td>
<td>Working draft</td>
<td>On-going process</td>
<td>Definition of content, structure, reporting</td>
<td>Content &amp; design definition</td>
<td>Annual Programme</td>
<td>Organising</td>
<td>On-going process</td>
<td>Video clip project</td>
<td>Meeting of on-farm testing WP</td>
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<tr>
<td>2009</td>
<td>- Reviewed draft</td>
<td>- MO draft</td>
<td>- Reviewed draft</td>
<td>- MO draft</td>
<td>On-going process</td>
<td>- February: Launching the on-line survey</td>
<td>- May: Report to ICAR Session</td>
<td>Developing existing RLN part</td>
<td>Annual Programme</td>
<td>Programming</td>
<td>On-going process</td>
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<tr>
<td>2010</td>
<td>Final draft:</td>
<td>- G.A. approval</td>
<td>- Inclusion in ICAR guidelines</td>
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<td>- Inclusion in ICAR guidelines</td>
<td>On-going process</td>
<td>Implementing country web spaces and self-maintenance facilities</td>
<td>Annual Programme</td>
<td>Organising</td>
<td>On-going process</td>
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Guides & protocols

- Guidelines on organising interlaboratory proficiency studies:
  - Star-up: definition of content & structure

- Guidelines on organising centralised calibration:
  - Star-up: definition of content & structure

- On-farm milk analysis:
  - ICAR guidelines for the use of on-farm milk analysers
  - Frame & Guidance for milk producers, DHI, device manufacturers

(Jointly with OMA WP)
Working Party on On-farm Milk Analysis
OMA WP

⇒ Transversal working group : 9 members, 6 ICARWP

to establish ICAR guidelines for the use of on-farm milk analysers
⇒ Frame & Guidance for milk producers, DHI, device manufacturers

<table>
<thead>
<tr>
<th>Working party</th>
<th>Name</th>
<th>e-mail</th>
</tr>
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<tbody>
<tr>
<td>SC Milk Analysis</td>
<td>Olivier Leray</td>
<td><a href="mailto:o.leray@cecalait.fr">o.leray@cecalait.fr</a></td>
</tr>
<tr>
<td>SC Milk Analysis</td>
<td>Harrie van den Bijgaart</td>
<td><a href="mailto:bijgaart@qlip.nl">bijgaart@qlip.nl</a></td>
</tr>
<tr>
<td>SC Milk Analysis</td>
<td>Marina Gips</td>
<td><a href="mailto:hmb-marina@icba.org.il">hmb-marina@icba.org.il</a></td>
</tr>
<tr>
<td>SC Milk Analysis</td>
<td>Christian Baumgartner</td>
<td><a href="mailto:cbaumgartner@mpr-bayern.de">cbaumgartner@mpr-bayern.de</a></td>
</tr>
<tr>
<td>SC Recording Devices</td>
<td>Pierre Billon</td>
<td><a href="mailto:pierre.billon@inst-elevage.asso.fr">pierre.billon@inst-elevage.asso.fr</a></td>
</tr>
<tr>
<td>WG Milk Recording in Sheep</td>
<td>Jean-Michel Astruc</td>
<td><a href="mailto:jean-michel.astruc@toulouse.inra.fr">jean-michel.astruc@toulouse.inra.fr</a></td>
</tr>
<tr>
<td>WG Lactation Calculation Methods</td>
<td>Filippo Miglior</td>
<td><a href="mailto:magg@cdn.ca">magg@cdn.ca</a></td>
</tr>
<tr>
<td>TF Milk Recording Practices</td>
<td>Reinhard Pauw</td>
<td><a href="mailto:pauw@lkv-nrw.de">pauw@lkv-nrw.de</a></td>
</tr>
<tr>
<td>WG Animal Recording Data</td>
<td>Norbert Wirtz</td>
<td><a href="mailto:norbert.wirtz@vit.de">norbert.wirtz@vit.de</a></td>
</tr>
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Standardisation of methods of analysis (IDF/ISO)

- Cow: Reference methods for lactose & SCC
- Sheep and goat: Reference methods for fat, protein, lactose & SCC
- All species:
  - Validation Protocol for alternative methods of milk analysis (IDF 128-3 / ISO 8196-3) (deriving from the ICAR Protocol)
  - Infra Red milk analysers: Revision of ISO 9266 | IDF 141.
Laboratory harmonisation

- **ICAR Reference Laboratory Network**: 38 members of 32 countries among which:
  - 16 members for goat
  - 14 members for sheep

![Diagram of ICAR International Reference Laboratory Network]
Evolution of membership and missions/activities from 1998 to 2008

ICAR Reference Laboratory Network

- NRTO
- RMS
- MLCC
- TLT
- IAM
- EAMI
- RAM
- NRCA
- DHIA
- Members

Years

Number of laboratories
ICAR International Proficiency Studies (PTs):

Criteria: F, P, L, SCC and urea
2006-2008: 5 trials for cow (2/year)

⇒ Sheep & goat: Expectation for more participants
Prospect on analytical methods/systems and connected devices

- **On-farm analysis:**
  - Collection of information (e.g. analysis in-line, portable anal. devices)
  - Consideration of AQA aspects related to QC Guide and validation protocol of analytical systems/devices
    \[\Rightarrow \text{Connection with OMA WP}\]
  - Approach on establishing acceptable limits for precision/accuracy for on farm analysers and overall consistency in milk recording systems
Setting-up of reference systems

New work item

⇒ **Reference system for SCC:**

- Low precise reference method (DMSCC)
  ⇒ collective reference, expert labs, international ref. materials, worldwide recognition

- New project in IDF with **co-leadership IDF/ICAR**
  ⇒ Connection with IDF MSSG

- ICAR (Service ICAR) foreseen as a **logistic & administrative platform**
Centralised calibration for routine methods:
- Effect of geographical origin of milk on calibration worldwide
  ⇒ Extent of overall measurement error

New project under consideration
  ⇒ Support for trials to be considered by ICAR
Training and education (T&E)

New work item

- Reflection on tools and adequate supports to implement

- Implementation through Reference Laboratory Network

- MA SC > to promote national/local action
  > to indicate essential points, provide standard tools.

- Joint ICAR/IDF project on video clips is considered
Communication

- ICAR Web site: Regular updating MTL WG web space
- Various information: Meeting minutes, workshop proceedings, events, PT programmes, list of analytical methods, list of centres for method evaluation, guides, protocol, etc
- Yearly information letter & annual programme of activities
- MA SC meetings: - IDF/ISO Analytical Weeks & ICAR Sessions
- ICAR Biennial Session: Niagara Falls 2008
  - ICAR Laboratory Network & NALMA joint meeting: 16 June 2008
Collect of information
Survey on ICAR lab situation

⇒ On-line questionnaire:

Standard questionnaire to be repeated every 2 years

Collect of information on:
- national AQA, QC
- laboratory monitoring,
- lab anchorage to the international level (network)
- etc

Synthetic report (tables) on ICAR website + pdf document
Key points to address to ICAR Board

1. Agreement on participation of ICAR (Service-ICAR) in the development of a SCC reference system.

2. Agreement on the principle of an alternative procedure for simultaneous milk analyser evaluation directed by ICAR (Service-ICAR), using expert laboratories appointed by ICAR.

3. Support for an experimental evaluation of regional effect on calibration of routine methods within ICAR.
Conclusion & prospect

MA SC has:

- taken over activities of the former MTL WG
- extended its focus onto milk analysis in other locations than laboratories,
  - started up to develop adequate tools and future services to be provided to laboratories,
- establish joint actions with IDF on common issues
- IDF/ICAR collaboration can strengthen / consolidate existing ICAR AQA system and broaden its recognition
Next meetings

✔ Kislovodsk (Russia) :  18-22 May 2009
   ➤ IDF/ISO/AOAC Analytical Week 2009

✔ Montréal (Canada) :  24-28 May 2010
   ➤ IDF/ISO/AOAC Analytical Week 2010

✔ Riga (Latvia) :  June 2010
   ➤ 37th Biennial ICAR Session
Thank You for your attention!