

ICAR Working Group on Milk Testing Laboratories

- Biennial report of activities in 2004-2005 -

At the date of the present report, ICAR Working Group on Milk Testing Laboratories (MTL WG) is composed of 9 world-wide representative members as follows :

Christian	BAUMGARTNER	(Germany)
Egil	BRENNE	(Norway)
Marina	GIPS	(Israel)
Olivier	LERAY	(France)
Ugo	PAGGI	(Italy)
George	PSATHAS	(Cyprus)
John	RHOADS	(United States of America)
Gavin	SCOTT	(New Zealand)
Harrie	VAN DEN BIJGAART	(The Netherlands)

In 2004, Gavin Scott (SAITL, NZ) replaced Des Johnston (Link Testing, NZ) as a representative of the Oceanian area. In 2005, Marina GIPS (IL) was nominated as a new member to represent Mid East Mediterranean area. In may 2006, Ugo Paggi (AIA-LSL, Italy) announced his retirement and proposed Silvia Orlandini (from the same laboratory) to replace him. Further membership extension is under consideration for representatives from Asian, Latin American and African areas. Roberto Castañeda (INTI-Lacteos, AR) is already identified as a candidate to represent Latin America.

Since the last Biennial ICAR Session in Sousse and at the date of the presentation of this report, the Working Group on Milk Testing Laboratories (MTL WG) has met three times :

- 24 May 2005 in Magaliesburg (South Africa) during IDF/ISO Analytical Week 2005,
- 10 November 2005, in Nicosia (Cyprus), hosted by the laboratory CMIO.
- 6 June 2006, in Kuopio (Finland) during the 35th Biennial ICAR Session of ICAR.

Working programme :

The working programme on the implementation and the development of analytical quality assurance in milk testing laboratories presented in Ottawa in 1994 is considered completed with regard to the first objectives dealing with drawing the general framework and fundamental guidelines. The AQA system has been progressively developed and experienced for 12 years meeting the interest of ICAR member countries. Normally depending on local (national) possibilities, it has been based on the voluntary participation of countries.

A first period of implementation is finishing and a second phase is on to begin to strengthen the ICAR AQA system. It can be made, at the laboratory level, by harmonised practical tools

and recommendations (guides) and services to countries, at national organisation level, by joining the system through the nomination of reference laboratories where they do not exist yet and commit for a regular participation of laboratories in ICAR international proficiency testing schemes. The web site of ICAR could help also in giving a clearer picture of the laboratory organisation in elaborating a large laboratory data base for laboratories (reference and routine). This should be discussed.

Consideration of the group includes on-farm milk analysis development which is making progress. Since then its implications for analytical quality assurance and harmonisation for analysis related devices (robot sampling, vials and containers) are new issues in connection with Sub-Committee Meters and Jars and every working group concerned by the on-farm analysis issue (i.e. milk recording in sheep, goat, buffalo).

1. Technical documents :

1.1. Guidelines for Quality Assurance in DHI analysis :

The document was completed in 1998 and was updated in 2006 for aspects relevant to methods and standards. It is proposed for publication in the ICAR Guidelines in 2006.

1.2. Protocol for the evaluation of milk analysers and official approval by ICAR:

Already reviewed through a questionnaire to national organisations in 2002 and made available for consultation on the web site of ICAR, the protocol is applicable to laboratory analysers today. Endorsed by the Board in 2004, the implementation of the approval system for milk analyser by ICAR planned in 2005 took some delays. Launching will happen at the beginning of July 2006.

The evaluation protocol is being adapted by IDF/ISO to become a third part of ISO 8196 | IDF 128. It is proposed for publication in the ICAR Guidelines with a procedure for approval request application.

1.3. Guidelines on sampling and lactation calculation with automatic systems:

Part of the document was produced jointly by SC RD and MTL WG and constitutes a new guidance (additional recommendations) to be published in ICAR guidelines in 2006.

2. Information to ICAR :

An inquiry on milk testing laboratories is under preparation in order to update the information about the analytical activities, quality assurance, analytical systems and instruments within ICAR. The target for reporting results should be the next ICAR Session 2008.

3. Participation in the international standardisation :

Members of MTL WG participate as experts in IDF/ISO Analytical Week. Since the last ICAR sessions, IDF/ISO Analytical Weeks were held in Magaliesburg-South Africa (23-26 May 2005) and Vilnius-Lithuania (29 May-2 June 2006). Items of interest are updates and revisions of

standardised analytical methodology for the determination of fat, protein, lactose, SCC, urea, and casein in milk.

Current items are:

- Sheep and goat milk : Standardisation of reference methods for fat and protein
- Lactose : Standardisation of HPLC method and differential pH method.
- Somatic Cell Counting : Revision of ISO 13366 | IDF 148
- Routine (alternative) methods : Revision of ISO 8196 | IDF 128 with complementation with a third part on a validation protocol of milk analysers similar as ICAR protocol.
- Infra Red milk analysers : Revision of ISO 9266 | IDF 141.
- Implementation of an international dairy reference laboratory network for IDF and a searchable data base of dairy laboratories on the Internet.

4. International DHI Reference Laboratory Network :

4.1. Current situation :

Nowadays, ICAR reference laboratory network created in 1996 is composed of 37 laboratory members from 31 countries, losing the membership of Hungary no longer member of ICAR in 2005.

The network members have had the opportunity to meet during the present ICAR Session on 6 June 2005. The situation of the network membership was presented.

Since 2002, ICAR Reference Laboratory Network has been broadened to analysis of milk of small ruminants (i.e. sheep and goat) following the principle that analytical frames should exist for every kind of milk used for human benefit and dealt with within ICAR. This opens the door to other animal species.

4.2. International Interlaboratory Proficiency Studies :

Since 1996, international proficiency studies have been organised routinely under the surveillance of MTL WG. At a rate of twice a year for fat, protein, lactose, somatic cell counting and urea, this now makes **21 trials** organised for cow milk analysis at the date of the report. Participation is regularly around 20 (or more) for fat, protein and 15 (or more) for lactose, somatic cell counting and urea.

For sheep and goat, the past years have been experimental in order to optimise the organisation and evaluate the degree of interest for international proficiency studies. In 2006 the too little participation already observed during the former years led to stop proficiency trials for those species. They will be renewed when a stronger interest will be shown by organisations/countries of ICAR.

5. Communication and information :

5.1. ICAR website :

From July 2002, the web space of MTL WG has been progressively filled in. As much as possible information is provided so as to make it a practical and useful source to ICAR country laboratories. Last updates were made in May 2006.

5.2. Meeting of ICAR Reference Laboratory Network :

A third meeting of ICAR Reference Laboratory Network second has been organised in Kuopio on 6th of June 2006. Made under the form of a workshop, discussion and speaker presentations dealt with quality assurance, reference and calibration systems and measurement uncertainty to respond to milk recording objectives. It is expected that direction can be taken from the indications pointed out in speeches. For the 10 years anniversary of the network it was especially the occasion to conclude the first period of the implementation of the international AQA system of ICAR and decide for the beginning of a second phase focused on common technical tools and guides to favour harmonisation between countries.

From the conclusions of the meeting and the following discussions within MTL WG, a new work programme will be drawn by 2007 for the next coming years.

6. Next meetings of ICAR MTL WG :

The next meetings will be organised during the IDF/ISO Analytical Week in Munich (DE), 21-25 May 2007 and during the 36th ICAR Session in Niagara Falls (USA), 16-24 June 2008.

Poligny, 9th of June 2006

Olivier Leray
Chair of ICAR Working Group
on Milk Testing Laboratories