



ICAR Member Organisations
&
Members of ICAR Reference Laboratory Network

Poligny, 15th December 2008

Subject : ICAR Reference Laboratory Network
& Interlaboratory Study Programme 2009

Dear Sir/Madam,

End of years has become the traditional periods for renewing contact and, beside the opportunity to address you our best greetings, to provide you an information on developments carried out, news and programmes of international proficiency test activities prepared for the forthcoming new year 2009 for ICAR Reference Laboratory Network.

I - Current situation :

History : In 1994, in order to enhance the world-wide recognition of national animal recordings, ICAR introduced Analytical Quality Assurance (AQA.) for milk analytical measurements and the Working Group on Milk Testing Laboratories (MTL WG) was entrusted with the task of implementing an International Analytical Quality Assurance System for milk recording within ICAR. Since then, setting up and animating an international network of reference laboratories under the aegis of ICAR has been a major objective of the group, as such a network constitutes an effective tool to develop AQA and harmonise analytical practices in milk recording laboratories. Indeed, it is aimed at that every ICAR country involved with milk recording would have (at least) one laboratory commissioned by the national organisation to monitor routine testing laboratories and provide relevant tools and services for analytical quality assurance that would be also member of the ICAR Reference Laboratory Network at the international level. So-called reference laboratories are expected to enhance harmonisation of practices and quality at their national levels according to international standards and ensure analytical results through national and international proficiency testing. From 2006, the ICAR AQA system has become part of a larger integrated ICAR Quality Assurance System based on Certification of Quality. Its permanency is assured by the Sub-Committee on Milk Analysis (MA SC).

Composition : Since it was created in 1996, ICAR reference laboratory network has progressively grown up to reach stabilisation in 2003. After a slight membership decrease in 2006, the network welcomed two new members in early 2007, Valacta (Canada) and the dairy laboratory of Ulbroka (Latvia) and, at the end of 2008, it is composed of **38** laboratory members from **32** countries as follows:

Argentina	(1)	Austria	(1)	Belgium	(2)	Canada	(1)
Cyprus	(1)	Czech Republic	(1)	Denmark	(1)	Estonia	(1)
Finland	(1)	France	(1)	Germany	(1)	Hungary	(1)
Ireland	(1)	Israel	(1)	Italy	(1)	Korea	(1)
Latvia	(2)	Lithuania	(1)	The Netherlands	(1)	New Zealand	(1)
Norway	(1)	Poland	(1)	Slovak Repub.	(1)	Slovenia	(1)
South Africa	(3)	Spain	(1)	Sweden	(1)	Switzerland	(1)
Tunisia	(2)	United Kingdom	(1)	U.S.A.	(2)	Zimbabwe	(1)

(n) : number of member(s)

II- Objectives :

2.1. **Communication and information:**

Communication is the key for enhancing harmonisation in the ICAR lab community. The laboratory network, through its members, allows establishing direct routes between harmonisation bodies and testing laboratories, therefore constitutes an adequate frame to provide laboratories with various information, as much for the general interest of the group as for more individual particular aspects. Communication is tri-directional as it is to exist between members, from ICAR to members and members to ICAR.

- Between network members : One of objectives of the network is to provide a sufficient information to identify appropriate correspondents thus enabling connection and collaboration between members inviting to exchange information and know-how on analytical matters. This goal is achieved through a list of network members where are reported all the elements needed to establish communication and beside an information about respective members' missions and activities.

With this respect, it is usual some member's pieces of information become out-of-date along time with local changes thus making regular updating necessary. So it is applied a two-yearly updating through e-mail dispatches at the mid and end of each year.

This is today the opportunity to provide you with the last update of the list and initiate the preparation of the next one. To make it possible, you are kindly requested to **check all the pieces of information** related to reference laboratory(ies) already nominated and **inform us on modifications needed** in return so that we can bring suitable corrections.

- From ICAR to network members : Another objective is to enable ICAR to provide and circulate information on analytical matters (e.g. member list updates, guidelines, standards, reports, proceedings, news, forthcoming meetings and events, etc) and communicate relevant guidance to appropriate correspondents involved in quality assurance in milk recording analysis. Indeed this is the utmost way to promote harmonisation and AQA, that ICAR implements through regular e-mail communication (important to update e-mail addresses!) and possible consultation and downloading from its web site http://www.icar.org/pages/Sub_Committees/sc_milk_laboratories.htm

- From network members to ICAR : Knowledge on the state of the art within the network and member countries is a necessity to upgrade and improve local situation so as to converge to harmonisation. Regular provision of information can be made from countries through questionnaires and, reciprocally, survey results returned back to members with the collective added value for comparison (benchmarking).

2.2. **Analytical performance assessment and harmonisation :**

The early nineties have seen the upcoming of AQA with certification and accreditation implementation. Already ICAR has anticipated the "New Deal" of Quality Assurance by setting up the Special Stamp for various animal recording activities. From 2006, that system is replaced by the ICAR system of Certification of Quality which is based on regular audits possible for every parts of the recording systems in place in its member organisations. The analytical dimension is now taken into account by reference to guidelines specific to laboratories and milk analysis.

The greatest importance is given to the assessment of laboratory performance for reference methods as used to calibrate rapid routine methods. Various possible network members' activities can require such an assessment, such as laboratories in charge of calibrating milk analysers, defining reference values for reference materials (RMs), evaluating milk analysers, transmitting good procedure/laboratory practices through teaching/training sessions.

One objective for ICAR remains today to provide to laboratories in ICAR countries a linkage and an anchorage with the international level through international interlaboratory proficiency studies. The model proposed is that of two different network levels - international and national - where interlaboratory

proficiency studies can be organised. Linkage between levels is expected through designated national laboratories which can participate in proficiency testing studies at both levels. Through their performance at both levels, the estimates of possible mean biases between national and international trials can be established and transmitted to the routine laboratories of their respective national network so that they can calculate their own position versus the international reference given by the international trial.

To make this possible, ICAR have implemented international proficiency testing schemes organised twice a year since 1996. They have become an element of the overall ICAR Quality Assurance System.

III – Maintenance, renewing, growing of ICAR network :

ICAR laboratory network, as a living organisation, evolves and changes according to modification in its membership. Membership is determined by nominations made by national organisations which provides them with specific status within ICAR.

As requested to play a role in milk recording analytical quality in their country, laboratory members of ICAR network are expected to have particular competence that can be expressed in one or more of the missions hereafter listed and serve as eligibility criteria for nomination:

- | | |
|---|---|
| 1- National ring test organizer | 5- Information on analytical methods |
| 2- Reference Material supplier | 6- Evaluation of analytical methods/instruments |
| 3- Master laboratory for centralized calibration | 7- Research on analytical methods |
| 4- Teaching and training in laboratory techniques | 8- National regulatory control of DHI analyses |

In general, any laboratory commissioned to monitor routine testing laboratories is invited to join the network so as to contribute to design the two level (national and international) frame within which AQA and harmonisation is implemented. For specific situation where only few laboratories with no national co-ordination, individual routine laboratories may also join the network so as to benefit to a direct anchorage to the international level whereas, in well structured local situations, so-called reference laboratories can establish the junction between routine labs and the international level.

Becoming a member does not imply any specific membership fees as the whole project is part of a collective operation within ICAR. Nominations are only dependent on decisions of ICAR national organisations which decide on the opportunity to nominate laboratories with regard to needs of own quality assurance policy.

Practically, nominations, membership replacements or cancellations can be realised at any time by national committees/organisations through the nomination form appended. This is the same form to be applied if laboratory characteristics (i.e. national missions and expertise/competence) have evolved, requesting modifications in the network list.

IV- Transmission of information :

It is now made by Internet through both e-mail dispatch and postage on the ICAR web site.

From 2002, ICAR web site has become a new and easy-to-use source of information to laboratories thanks to the specific space dedicated to Milk Testing Laboratories:

http://www.icar.org/pages/Sub_Committees/sc_milk_laboratories.htm

Today ICAR web site enables everyone to keep aware of work underway in the new sub-committee, to have at one's disposal technical documents produced by the group (i.e. guidelines, protocol, survey reports, event proceedings, etc) and find a specific information about ICAR Reference Laboratory Network. With this respect regular meetings of the network are announced and relevant proceedings posted thereafter. After three meetings in Interlaken in 2002, in Sousse in 2004 and in Kuopio in 2006 the last meeting was held in Niagara

Falls (USA) in June 2008. At this occasion, reference systems and centralised calibration were especially under the spotlights as well as international connection of laboratory networks.

V - ICAR Reference Laboratory Network for Sheep and goat milk analysis :

Milk production of other animal species - i.e. goat, sheep and to some extent buffalo - is the subject of constant interest to ICAR. Today, analyses of milk of small ruminant species are currently run every day making emerge the need for an analytical quality assurance system similar as it exists for cow in ICAR.

ICAR reference Laboratory Network extended its field of application to sheep and goat milk analysis and received new laboratory nominations of for that issue in 2002. Today there are respectively **14** appointed reference laboratories involved in sheep milk analysis and **16** in goat milk analysis.

By comparison to reference laboratories involved in cow milk analysis, they still constitute significantly small laboratory networks with difficulties inherent to this aspect. Indeed, international proficiency studies organised for milk of small ruminants showed only little participation and were not renewed from 2005.

Nevertheless, small ruminant milk analysis keeps being any issue for the international community who is completing the elaboration of IDF/ISO standard for analytical methods on fat, protein and somatic cell counting. In the future, ICAR PT programmes in sheep and goat milk analysis can be reactivated on the requested of a sufficient number of laboratories and countries.

VI - ICAR Interlaboratory Proficiency Study Programme :

From network creation in 1996, ICAR has proposed to network members international interlaboratory proficiency study programme dedicated to main (cow) milk component of interest for milk recording. This has been made possible thanks to early partnerships established with the French (non profit) association CECALAIT and later on, from 2002 to 2005, with the Italian organisation AIA-LSL for the development of similar international PT programmes for sheep and goat milk analysis.

In Year 2008, participation in the ICAR proficiency testing scheme was comparable to Years 2007 with, as respective participant numbers in March/September 2008, 20/18 for fat, 20/18 for protein, 15/15 for lactose, 21/23 for somatic cell counting and 15/15 for urea.

There is still a potential for an increase of participation allowing to move to trials still more representative of ICAR member countries. Indeed, A renewed interest in international ICAR comparisons remains for not yet participating members in assuring their analytical equivalence with other countries through the new ICAR quality certification system. This is the suitable response to the needs of dairy organisations of ICAR to fit to the developing international requirements in genetic trade and the general quality assurance strategy proposed by ICAR.

There are two interlaboratory study rounds scheduled in 2009, respectively in **March** and **September 2009** as the **27rd** and **28th** trials from the launching of ICAR annual PT programmes. They concern the determination of **fat, protein, urea and somatic cell counting and lactose in cow milk**. They will be organised by the new French association ACTILAIT through its eastern site of Poligny ACTILAIT/CECALAIT. Details of the annual programme is appended to this letter with a specific information and registration forms.

For sheep and goat milk analysis there is no proficiency study scheduled yet. Nevertheless the possibility is still there trials can be organised by LSL-AIA during the year if it is requested by a sufficient number of laboratories. For that purpose, contact can be especially taken with Mrs Silvia Orlandini (orlandini.s@aia.it).

VII – Conclusions :

ICAR Reference Laboratory Network is a valuable tool made for the convenience of ICAR member organisation for which Quality assurance has become a major issue. On its behalf and the benefit of its members many pieces of information are produced and special services provided in order to facilitate the implementation of world wide equivalence for analytical data and mutual recognition between ICAR member organisations/countries.

In this way ICAR Reference Laboratory Network has become the keystone of an international analytical quality assurance system implemented by ICAR from 1996. Nevertheless, a progress is still possible and needed to move to a more general adoption of the system proposed by ICAR and a larger participation in ICAR interlaboratory studies organised by ICAR at the international level.

So our kind invitation to national organisation of ICAR to join us or to confirm their participation and to register or invite their nominated laboratories to participate in ICAR interlaboratory proficiency schemes :

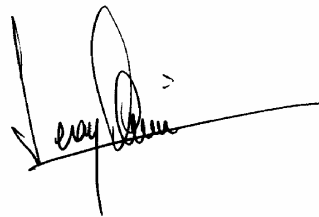
- ⇒ **Nomination :** Nominations, competence changes and updates (including replacement and cancellation), can be made at every time by returning the nomination form appended in page 6.
- ⇒ **International interlaboratory proficiency studies :** Information on programmes, conditions of participation and registration forms to return can be found in pages 7 to 10 .

In the name of the members of ICAR Sub-committee on milk Analysis, I thank you for your interest in this general issue of AQA in milk recording laboratories and transmit to you and to the personnel of your organisation our best wishes for Christmas and the New Year 2009.

Yours faithfully.

Olivier Leray
Chairman of ICAR Sub-Committee
on Milk Analysis

ACTILAIT / CECALAIT
BP 70129, F-39802 Poligny Cédex
tél. : 03 84 73 63 20
fax : 03 84 73 63 29
E-mail : o.leray@cecalait.fr



P.J. : List of ICAR Reference Laboratory Network (NW-list-22.doc)

Tel : +33/ 3 84 73 63 20 - Fax : +33/ 3 84 73 63 29 - e-mail : o.leray@cecalait.fr



ICAR INTERLABORATORY PROFICIENCY STUDY PROGRAMME 2009

ANALYTICAL METHODS FOR COW MILK

- TECHNICAL INFORMATION -

1) Methods to apply: Reference methods used by the participant to calibrate its automated routine methods for fat, protein and lactose, reference and/or routine methods for somatic cell counting and all methods for urea.

Attention : *Applying infra-red measurements cannot provide an effective evaluation of lab performances like with chemical methods. Infra red read-outs are influenced by variability in fat and protein composition. Therefore, laboratories in different countries and regions will work with different calibration settings. Measuring trial samples with infrared would hamper a fair comparison and a proper interpretation of the results. Centralised calibration can only be a specific choice of the country that can apply IR trials in its national schemes.*

2) Samples:

- 10 whole milk samples: preserved with 0.02 % bronopol, regularly ranging from 1.5 % to 4.9 % fat and from 2.5 % to 4.0 % crude protein (TNx6.38)
- 10 whole milk samples: preserved with 0.02 % bronopol, regularly ranging from 4.6 % to 5.1 % lactose
- 10 whole milk samples: preserved with 0.02 % bronopol, regularly ranging from 50 to 1600 x10³ cells/ml
- 10 whole milk samples: preserved with 0.02 % bronopol, regularly ranging from 10 to 70 mg urea /100 ml
- 3 Kjeldahl solutions: 1 tryptophan + 1 Glycin + 1 ammonium sulfate, at N concentration of milk
- 1 lactose solution : at the concentration of milk.

3) Dispatch conditions:

- **packaging :** 65 ml or 35 ml polyethylene screw-capped vials with airtight joints.
- **number of samples :** 1 set of 10 samples for fat and protein (Kjeldahl) measurements (n°1 to 10), 1 set of 10 samples for lactose measurements (n°11 to 20), 1 set of 10 samples for SCC (n°Cells1 to Cells10) and 1 set of 10 samples for urea (n°Urea1 to Urea10).
- **dispatch :** by express carrier with ice in isolated boxes => arrival within 1 day (for most European countries) up to 5 days, depending on the consignee's country.
- **storage in the laboratory:** samples must be stored at 4°C upon arrival and should be analysed for SCC no longer than 5 days, and for chemistry no longer than 10 days, after the dispatch date.

4) Date of sample dispatch :

	1st trial	2nd trial
Europe and next to	: 9 March 2009	7 September 2009
Arrival expected	: from March 10 to 14	from September 8 to 12

5) Statistical treatment:

Evaluation versus the participant group (network reference) with the whole group presentation (anonymous) :

- * assessment of repeatability (duplicates requested)
- * assessment of accuracy
- * assessment of calibration (where needed)
- * assessment of linearity (where needed)
- * laboratory evaluation through a ranking table and a target figure.

Evaluation versus CECALAIT reference values with individual bulletins of own results and scores.



ICAR INTERLABORATORY PROFICIENCY STUDY 2009

ANALYTICAL METHODS FOR COW MILK

- REGISTRATION / AUTHORISATION FORM FOR DATA USE -

Laboratory name: Country :

Address: Telephone:

..... Fax:

..... E-mail :

Name of the contact:

Aware of that

- ICAR interlaboratory proficiency studies for fat, protein, lactose, urea and somatic cell determination are organised by the proficiency trial organiser ACTILAIT/CECALAIT under the umbrella and on behalf of ICAR, following technical requirements defined in an annual convention passed between ICAR and ACTILAIT,
- ICAR interlaboratory proficiency studies are performed according to the same experimental design and using the same samples as those of ACTILAIT/CECALAIT trials organised at the first quarter (March) and third quarter (September) of the year,
- ICAR interlaboratory proficiency studies are specially organised in the frame of ICAR Reference Laboratory Network so as to help members in self-evaluating by comparison with peers for the objective of analytical quality Assurance in national and international milk recording and, as such, are parts of a general quality assurance system implemented by ICAR,
- ICAR interlaboratory proficiency studies enable to provide, beside the assessment of own quality by individual scores, an collective technical information (anonymous) on methods/participants behaviour for the benefit of users,

the above-named organisation/laboratory by the present form hereby :

- requests for participating in ICAR PT programme of 2009 therefore gives the authorisation to the organiser ACTILAIT/CECALAIT that those results addressed by the laboratory in the normal course of those ACTILAIT/CECALAIT trials and which correspond to analytes/measurands/criteria of ICAR trials, are utilised in the general ICAR statistical treatments,
- declares the present form as a complement to the ACTILAIT/CECALAIT order form so as to benefit of the specific ICAR rates for the defined ICAR criteria, according to the conditions here-after appended.

The above-mentioned authorisation is only valid for network trials of Year 2009. It should be annually renewed for further yearly application.

Date:

Signature :

Please, return to : ACTILAIT-CECALAIT, B.P. 70129, 39802 POLIGNY CEDEX, France - Fax : 33.3.84.73.63.29

BY : 23rd February 2009



ICAR INTERLABORATORY PROFICIENCY STUDY PROGRAMME 2009

ANALYTICAL METHODS FOR COW MILK

- CONDITIONS OF PARTICIPATION -

- 1- Registrations are made through the unique form of physicochemical proficiency testing on raw milk of ACTILAIT/CECALAIT so as to avoid confusion between different schemes :

The form is for common use to ICAR and ACTILAIT/CECALAIT interlaboratory proficiency studies carried out in parallel and contains more criteria than the only required by ICAR since then allows to use it for each kind of trials at one time. An annual individual authorisation for analytical data use in the network treatment avoids multiple different registrations therefore prevents from mistakes or registration forgetting. The first (March) and third (September) columns related to network trials.

In case prior registrations were already made for ICAR criteria using the only form of the ACTILAIT/CECALAIT service catalogue, it is only needed to return the "registration/authorisation form for data use".

If ever you have not registered for all the ICAR criteria you need, you can address a modification of the former order by returning a second ACTILAIT/CECALAIT form complemented with additional criteria for replacement to the organiser.

- 2- ICAR compounds/criteria proposed are fat, protein, lactose, urea and somatic cell counting. Fat and protein relate to the reference methods used to calibrate routine analytical devices. Fat and protein results obtained with infra-red spectroscopic methods cannot be taken into account in the statistical treatments since they cannot provide valid performance evaluations.
- 3- Rates are those of ACTILAIT/CECALAIT with the advantage of the 10 % discount for consistent groups of more than 10 participants and shipping costs are specifically adjusted to network needs by maintaining a single rate according to the mutual principle that has prevailed in the former years :

Network PT fees (Euros out of VAT per trial)	ACTILAIT/ CECALAIT members (*)	Others (non members)
<u>Participation fees</u>	<u>135,53 €</u>	<u>158,11 €</u>
<i>Shipping cost</i>	<i>90,47 €</i>	<i>90,47 €</i>
<i>Organising</i>	<i>45,10 €</i>	<i>67,64 €</i>
Fat	45,10 €	67,64 €
Protein	54,12 €	81,17 €
Lactose	45,10 €	67,64 €
Urea	45,10 €	67,64 €
Somatic cells	45,10 €	67,64 €

(*) *Membership is opened to every laboratory world wide minding to pay an annual membership fee to ACTILAIT/CECALAIT*

- 4- Two statistical treatments are provided : Individual score bulletins distributed by ACTILAIT/CECALAIT on one hand, and the general network statistical treatment of ICAR.

TO BE FILLED IN BY CECALAIT

TO BE FILLED IN BY CECALAIT

N° CECALAIT:	
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N°:	
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**SUBSCRIPTION TARIFFS FOR PHYSICO-CHEMICAL PROFICIENCY TESTING
ON RAW MILK IN 2009**

(this sheet is equivalent to an order form)

Tariffs for each dispatch:

	CECALAIT member	non-member
Registration fees	51.11 €	75.15 €
Participation fees (for each test)	51.11 €	75.15 €
Kjeldahl supplement	10.02 €	15.04 €

(these prices do not include postage and packing for international delivery or VAT)

Special conditions: for associations or groups of more than 10 participating laboratories: 10 % discount

Payment conditions: within one month receiving of invoice

REGISTRATION FOR PHYSICO-CHEMICAL PROFICIENCY TESTING ON RAW MILK IN 2009

(this sheet is equivalent to an order form)

Name and delivery address:	Name and invoicing address:

Name of the person in charge of the laboratory:

TEL:

FAX:

e-mail:

Prefers to have results and comments sent back in FRENCH ENGLISH *(delete as applicable)*

Wishes to participate in the following CECALAIT proficiency testing (fill in the appropriate box):

TO BE FILLED IN BY CECALAIT ---

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PHYSICO-CHEMICAL PROFICIENCY TESTING ON RAW MILK	1 st quarter Cecalait + ICAR (dispatch : 09 Mar 2009)	2 nd quarter Cecalait only (dispatch : 08 June 2009)	3 rd quarter Cecalait + ICAR (dispatch : 07 Sept 2009)	4 th quarter Cecalait only (dispatch : 07 Dec 2009)
FAT: GERBER
NOIR AMIDO
FAT: ROSE-GOTTLIEB
KJELDAHL
DRY MATTER
LACTOSE
FREEZING POINT
UREA
SOMATIC CELLS

PAYMENT CONDITIONS: within 1 month receiving of invoice

SIGNATURE

DATE

RETURN TO: ACTILAIT-CECALAIT, B.P. 70129, 39802 POLIGNY CEDEX FRANCE Fax: 33.3.84.73.63.29
BY: 23rd February 2009, for the first dispatch and at least 10 days before each dispatch