



**Annual report of the  
UK National Reference Laboratory  
for the testing of  
milk and milk products**



**2015-2016**

## **Contents**

<b>Page 3-4</b>	Details of National Reference Laboratory
<b>Page 5-6</b>	Introduction to annual report
<b>Page 7</b>	FSA UK
<b>Page 8</b>	Maintenance of UK-NRL website
<b>Page 9</b>	UK OCLs
<b>Page 10</b>	18 <sup>th</sup> Workshop of the NRLs for milk and milk products
<b>Page 10-11</b>	BSI and ISO standards
<b>Page 11</b>	Alkaline phosphatase activity in cow's milk
<b>Page 12</b>	Somatic Cell Counts
<b>Page 12</b>	Inter-laboratory PT trial on enumeration of microorganisms at 30°C in Sheep's Milk
<b>Page 12-15</b>	Establishment of Conversion Factors for UK between alternative methods and reference methods for total viable count in raw milk
<b>Page 16-25</b>	Appendices

## Annual report of the UK National Reference Laboratory for the testing of milk and milk products.

The National Reference Laboratory (NRL) for the testing of milk and milk products for the UK is currently based at the Agri-Food and Biosciences Institute (AFBI) in Belfast, Northern Ireland.

The role of this and all other respective NRLs, in other Member States, is to provide monitoring for the enforcement of EU Directive 882/2004 on official controls performed to ensure the verification of compliance with food and feed law, animal health and animal welfare rules. The ultimate aim is to promote fair trade both within and between Member States within the EU.

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<b>Sponsor:</b>	Food Standards Agency Aviation house 125 Kingsway London WC2B 6NH
<b>Project number:</b>	FS616028

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## Introduction

This report provides an outline of the work of the UK-NRL over the financial year 2015 to 2016. The UK-NRL acknowledges the support of the FSA and the help of AFBI in fulfilling its duties. On the top tier in the hierarchy of enforcement authorities within the European Union is the EU Reference Laboratory (EU-RL) for Milk and Milk Products which is based in Maisons-Alfort, Paris, France and funded directly by the EU Commission. This Laboratory is responsible for monitoring the performance of the reference laboratories in Member States and within the UK the NRL is based in the Agri-Food and Biosciences Institute in Belfast (AFBI), UK. Each of the NRLs is, in turn, responsible for the performance of Official Control Laboratories (OCLs) situated within their jurisdiction. Both the Member State NRLs and OCLs are funded by their respective Government Departments for testing performed under the relevant legislation. An OCL is defined as a laboratory which generates results which can be used by the competent authority for enforcement purposes under the requisite EU Directives. The object of the whole exercise is to facilitate fair trade both within and between Member States of the EU and ultimately to ensure the safety of the public and protect them from fraudulent practices. It also acts as a contact point for those countries outside the EU who wish to export dairy products into the region.

The core functions of the UK-NRL include:

- Secretariat Services
- Advice and representation within the UK/EU
- Production of standard operating procedures, codes of practice and guidance documents at the request of the FSA
- Compliance assessment via audits and ring trials

- Co-ordination within the UK of EURL initiatives
- Communication of results and data use
- Additional services and tasks as requested by the FSA

The responsibilities of the UK-NRL therefore are:

- Dissemination of information coming from the EU-NRL
- Provision of expert advice to the FSA or OCLs as required
- Monitoring the performance of national OCLs. The majority of these labs within the UK are accredited to ISO17025 by United Kingdom Accreditation Service (UKAS) for the analyses they perform under the requisite EU legislation. This requires internal and external independent audit and satisfactory performance in internal and external quality assurance schemes to assure the laboratories proficiencies in the tests undertaken
- Participation in workshops organised by the EU-RL on topics of concern
- Dissemination of relevant changes to British Standard (BSI) and International Standard Organisation (ISO) standards to the OCLs
- Participation in ring trials organised by the EU-RL to ensure the satisfactory performance of the member state NRLs
- Participation in practical assessments to aid the formulation of EU legislation

## **FSA UK**

### **Provision of reports to the UK-FSA**

Reports on all UK-NRL activities have been provided to the FSA on a monthly and quarterly basis. Monthly reports usually took the form of a short email report while quarterly reports were more comprehensive. They were sent electronically to the NRL project manager and any matters arising discussed at greater length.

Regular meetings were also held between FSA and NRL representatives throughout the year to discuss details on the study to establish a UK BactoScan conversion factor.

A number of staff changes at AFBI are relevant to the UK-NRL. A meeting took place in AFBI on 23<sup>rd</sup> March 2016 between FSA (Chelvi Leonard, Bhavna Parmar) and staff involved in the UK-NRL at AFBI to discuss these changes. Mark Linton has replaced Lynn Moran as the Project Manager and Prof Nicolae Corcionivoschi will replace Dr Bob Madden as Lead Scientist from 1<sup>st</sup> April 2016.

### **Brazilian Inspection of UK Dairy Controls**

On 19<sup>th</sup> May 2015 Brazilian auditors carried out an inspection of the UK-NRL. The quality management system and test methods were audited along with the functions of reference laboratory. No problems were reported.

## Maintenance of UK-NRL Website

This website allows a mechanism for disseminating information to all interested parties and has been updated on an on-going basis as new information and reports become available. The annual report for 2014-2015 was loaded onto the website for full access to all interested parties.

During the course of the year the AFBI website was updated and the UK-NRL website was part of this process. The new web address is given below:

Link to UK-NRL Website: <https://www.afbini.gov.uk/articles/united-kingdom-national-reference-laboratory-milk-and-milk-products>

This information has been disseminated to the OCLs.



## Official Control Laboratories

### Status of OCLs

The status of the Official Control Laboratories was monitored throughout the year and relevant information from the EU-RL circulated as required. The UKAS schedules for all the OCLs were acquired from the UKAS website and the schedules checked to ensure that accreditation was up to date. The updated list is attached in Appendix 1.

The BSI has introduced a public online system where new work proposals are accessible for wider view and comment. The OCLs were sent this information by e-mail along with a link to a proposal for determination of urea in milk by continuous flow analyser. Any further BSI proposals of relevance will be circulated to all OCLs.

### OCL and other requests for advice

The UK-RL provided advice in response to various enquires from OCLs and other national NRLs throughout the year on a range of topics;

Alkaline phosphatase testing in ice cream

Alkaline phosphatase testing in cream

Freezing point depression to assess adulteration of milk

The UK-NRL dealt with all these by directly responding to the specific query or by seeking advice from the EU-RL and passing this on to the enquirer in a timely fashion.

## **18<sup>th</sup> Workshop of the NRLs for milk and milk products**

The UK-NRL Lead Scientist Bob Madden and his successor Nicolae Corcionivoschi attended the 18<sup>th</sup> Workshop on 7<sup>th</sup> to 9<sup>th</sup> October 2015 at the headquarters of the EU-RL at Maisons-Alfort in Paris. The main topic of the workshop was hygiene of raw milk and pasteurisation tracers. A full agenda and UK NRL report are attached in Appendix 2. To date the EU-RL has not published a full report of this meeting on its website.

## **British Standard (BSI) and International Standard Organisation (ISO) Standards**

Dr Bob Madden in his capacity of Lead Scientist for the UK-NRL attended the BSI AW/9 Microbiology meeting on 5<sup>th</sup> June 2015. No matters of direct relevance to the UK-NRL were discussed however there were discussions on co-ordination between AW 005 (Chemical Analysis of MMP) and AW09 (Microbiology).

On 13-17<sup>th</sup> April 2015 Bob Madden attended the IDF/ISO analytical week in Namur, Belgium, and attended meetings of the Standing Committee on Analytical methods for Dairy Microorganisms, and the Standing Committee on Harmonisation of Microbiological methods. The role of skim milk in ISO 4833 was debated, as the scopes of part 1 and part 2 were felt to be unclear. Hence the use of plate count agar, with or without skim milk, was discussed. The head of the EURL agreed to consider the matter as a possible task for the laboratory. A full report of the meeting is in Appendix 3. Nicolae Corcionivoschi will attend the next meeting, which will take place in May 2016 in Denmark.

Milk standards from the AW/005 Chemical analysis of milk and milk products BSI eCommittee were forwarded to NML as agreed with the FSA.

A report of the 2015 annual meetings of CEN/TC 275/WG 6 and ISO/TC 34/SC 9 held in June 2015 was received from the EURL.

As part of UK-NRL responsibilities to disseminate relevant changes to BSI and ISO standards to the OCLs, two reports were received during the year for comment.

- Revision of ISO 21187 Milk - Quantitative determination of microbiological quality - Guidance for establishing and verifying a conversion relationship between results of an alternative method and anchor method results.
- Proposal ID: ISO/TC34/SC5 N1074 Milk -Determination of urea content by continuous flow analyser

## **Alkaline Phosphatase activity in cow's milk**

### **Proficiency Trials (PT) on the determination of the Alkaline Phosphatase activity in cow's milk**

In November 2015 the UK-NRL participated in a trial to determine alkaline phosphatase activity in five samples of cow's milk sent by EU-RL. The final report has been received and the UK-NRL results were all in the satisfactory category (Appendix 4).

## **Somatic Cell Counts**

### **Inter-laboratory proficiency testing trial**

The UK-NRL took part in a proficiency testing trial for somatic cell counts in raw cow's milk by EN ISO 13366-1 on 11<sup>th</sup> June 2015. The results of this trial have not yet been published by the EU-NRL, so the performance of the UK-NRL it is not known.

### **Inter-laboratory PT trial on enumeration of microorganisms at 30°C in sheep's milk**

The EU-RL published a preliminary report on the proficiency testing trial (5<sup>th</sup> December 2014) for the enumeration of microorganisms at 30°C in raw sheep's milk. All of the UK-NRL results were in the satisfactory category (Appendix 5).

### **Establishment of conversion factors between alternative methods and reference methods for total viable count in raw milk**

#### **Establishment of a conversion factor for the UK**

Alternative methods such as the BactoScan<sup>TM</sup> (Foss) and Bactocount<sup>TM</sup> (Bentley) systems are used for measuring the total viable microflora of raw milk in EU Member States. These alternative methods enumerate all of the viable bacteria in the sample, even those within clumps, as all bacterial cells are separated to allow a total individual

bacterial count (IBC) to be obtained. Traditional viable plate counting methods cannot discriminate between cells within clumps and single cells and report the results of the total viable count (TVC) as colony forming units (cfu). This means that the value obtained with alternative methods is likely to be consistently higher than the value obtained using a traditional plate count. This necessitates the use of a conversion factor to transform the value obtained with alternate methods to its plate count equivalent since the latter value is used for enforcement purposes.

Thus a study was proposed that aimed to determine the equation relating conventional microbiological counts (TVC) of bacteria in raw milk to the results obtained from BactoScan equipment, which produce an individual bacterial count (IBC). This equation is referred to as the conversion factor and takes the form:

$$\text{Log}_{10} (\text{TVC}) = m \times \text{Log}_{10} (\text{IBC}) + c$$

m = slope, and c = constant.

The conversion factor is needed to facilitate comparison of automated test results carried out by members of Dairy UK's Farm Assurance Scheme with the legislative limit based on the reference (plate count) method. Latterly the plate count method was based on BS EN ISO 4833:2003, but this was subsequently updated to become BS EN ISO 4833-2:2013. None of the OCLs within the region use an automated method for enforcement purposes by the relevant competent authority.

There are currently only a few such machines in the UK and they are chiefly used by commercial dairy organisations in support of quality payment schemes, rather than enforcement purposes.

A significant amount of effort this year has been put into co-ordinating this trial, collating the results and analysing the data generated in order to determine the UK

conversion factor. Results from the three laboratories covering England and Wales, Northern Ireland, and Scotland have been collected. The three participating laboratories all analysed 800 samples for both TVC (by conventional methods) and IBC (by BactoScan).

Statistical analysis of all results was undertaken by a qualified statistician, Dr Alan Gordon, of Biometrics & Information Systems Branch, AFBI, using Genstat.

The results for one laboratory were significantly different from the other two laboratories and work is ongoing to ascertain the cause of the discrepancy and rectify it. Using all of the data considered valid the regression equation which constitutes the conversion factor was determined as:

$$\text{Log}_{10} (\text{TVC}) = 0.9367 \times \text{Log}_{10} (\text{IBC}) - 0.7002$$

Work is ongoing to obtain acceptable results from the third laboratory and it is envisaged that once appropriate measures have been taken and competence in BS EN ISO 4833:2003 proven, then the collection of a dataset of UK results will be completed and the UK factor calculated using the new results. A report on the UK conversion factor will be prepared in 2016.

### **BactoScan™ and Bactocount™ comparison**

Although all the labs that use alternative methods in the UK currently use the BactoScan equipment, another company (Bentley) produce a machine that also measures total viable microflora and they expressed an interest in taking part in the UK conversion factor study.

Accordingly a study was undertaken to compare the results of BactoScan and BactoCount equipment for a set of duplicate samples.

Bentley installed an appropriate machine at NML premises in Hillington and trained staff in its use. Samples of raw milk ( $n = 1,000$ ) were analysed in duplicate on both BactoScan and BactoCount machines and the data collected. The data was analysed by a statistician of Biometrics & Information Systems Branch of AFBI. Exact equivalence was not demonstrated. These results indicate that a separate conversion factor for the Bactocount would have to be established. However, work done in the Republic of Ireland showed good correlation between the Bactoscan and the Bactocount, so further work would be necessary to confirm the results of the trial at Hillington.

## Appendix 1 England OCLs

Lab Type	OCL Name and Address	Contact details	Milk and Milk Product Tests	Main Contact	UKAS No	UKAS Issue Date
	<p>ALS Food and Pharmaceutical Medcalfe Way Bridge St Chatteris Cambridgeshire PE16 6QZ</p> <p>First Floor Building 550 Winch road Kent Science Park Sittingbourne Kent ME9 8EF</p>	<p>01354 697028</p> <p>01795 858290</p>	<p><b>Micro Chem</b> Raw milks for drinking only under Food Hygiene (England) Regulations 2006 SI 2006/14 The Food Hygiene (Wales) Regulations 2006 (SI 2006/31 (W.5))</p>	<p><a href="mailto:customerservices.uk@alsglobal.com">customerservices.uk@alsglobal.com</a></p>	UKAS 1282	01-09-15
AA PA FE	<p>Hampshire Scientific Service Hyde Park Road Southsea Hampshire PO5 4LL</p>	023 9282 9501	<p><b>Micro Chem</b> including Aflatoxin M1 and Antibiotics</p>	<p><a href="mailto:jss@hants.gov.uk">jss@hants.gov.uk</a></p>	UKAS 0024	20-11-15
AA PA	<p>Kent Scientific Services 8 Abbey Wood Road Kings Hill West Malling Kent ME19 6YT</p>	03000415100	<p><b>Chem</b></p>	<p><a href="mailto:kss@kent.gov.uk">kss@kent.gov.uk</a></p>	UKAS 1398	14-01-16
AA PA FE	<p>Lancashire County Scientific Services Pedders Way Preston Riversway Docklands Preston PR2 2TX</p>	01772 721660	<p><b>Micro - Dairy not specified</b> <b>Chem - including phosphatase</b></p>	<p><a href="http://www.lancashire.gov.uk">http://www.lancashire.gov.uk</a></p>	UKAS 0625	28-01-16
AA PA FE	<p>Public Analyst Scientific services Ltd. (PASS) Operating at the following sites:</p> <p>PASS Head Office i54 Business Park Valiant Way Wolverhampton WV9 5GB</p> <p>PASS London Lab 28 - 32 Brunel Road Westway Estate London, W3 7XR England</p> <p>PASS Norwich lab 70-80 Oak Street Norwich Norfolk NR3 3AQ</p>	01902627241	<p><b>Micro -Dairy not specified</b></p>	<p><a href="mailto:info@publicanalystservices.co.uk">info@publicanalystservices.co.uk</a></p>	<p>Micro UKAS 0342</p> <p>UKAS 7834</p>	<p>24-02-16</p> <p>28-04-15</p>
FE	<p>Public Health England (PHE) Public Health England (PHE) Food Water and Environmental Microbiology (FWEM) Network</p> <p>Laboratories operating at the following sites:</p> <p>FWEM Laboratory, Birmingham</p>	0121 424 9241	<p><b>Micro - Pathogens only</b></p>	<p><a href="http://www.gov.uk/phe">www.gov.uk/phe</a> <a href="http://www.hpa.org.uk">www.hpa.org.uk</a></p> <p><a href="mailto:fwelabbirmingham@phe.gov.uk">fwelabbirmingham@phe.gov.uk</a></p>	UKAS 1375	10-02-16



	Good Hope Hospital Rectory Rd Sutton Coldfield Birmingham B75 5RR					
	FWEM Network London Laboratory 61 Colindale Avenue London NW9 5EQ	02083276500/ 02083276549	<b>Micro Chem</b> - Phosphatase only	<a href="mailto:fwem@phe.gov.uk">fwem@phe.gov.uk</a>	UKAS 4063	04-11-15
	FWEM Laboratory, Porton Salisbury Wiltshire SP4 0JG	01980616766	<b>Micro Chem</b> - Phosphatase only	<a href="mailto:LabFweporton@phe.gov.uk">LabFweporton@phe.gov.uk</a>	UKAS 1645	26-10-15
	FWEM Laboratory, Preston Royal Preston Hospital Sharoe Green Lane Fulwood Preston PR2 9HT	01772522759	<b>Micro Chem</b> - Phosphatase only	<a href="mailto:fwepreston@phe.gov.uk">fwepreston@phe.gov.uk</a>	UKAS 1496	06-10-15
	FWEM Laboratory, York Block 10, The Food and Environmental Research Agency (FERA) Sand Hutton York YO41 1LZ	01904468948	<b>Micro Chem</b> - Phosphatase only	<a href="mailto:YorkFWELab@phe.gov.uk">YorkFWELab@phe.gov.uk</a>	UKAS 2724	11-03-13
<b>AA PA</b>	Staffordshire Scientific Services County laboratory and Scientific Services 14 Martin street Staffordshire ST16 2LG	01785 277825	<b>Chem</b> - including phosphatase	<a href="mailto:staffs-scientific@staffordshire.gov.uk">staffs- scientific@staffordshire.gov.uk</a>	UKAS 1692	16-02-15
<b>AA PA</b>	West Yorkshire Analytical PO Box 11 Nepshaw Lane South Morley Leeds LS27 0JQ	0113 383 7550	<b>Chem only</b> – including antibiotics Phosphatase and SCC not UKAS	<a href="mailto:analyst@wyjs.org.uk">analyst@wyjs.org.uk</a>  <a href="http://www.analyst.wyjs.org.uk">www.analyst.wyjs.org.uk</a>	UKAS 1696	07-07-15
<b>AA PA</b>	Worcestershire County Council Scientific Services Unit 5 Berkeley Business Park Wainwright Road Worcester WR4 9FA	01905 751300	<b>Chem only</b>	<a href="mailto:scientificservices@worcestershire.gov.uk">scientificservices@worcestershire.g ov.uk</a>  <a href="http://www.worcestershire.gov.uk">www.worcestershire.gov.uk</a>	UKAS 0627	01-03-16

## Northern Ireland OCLs

Lab Type	OCL Name and Address	Contact details	Milk and Milk Product Tests	Main Contact	UKAS No	UKAS Issue Date
<b>FE</b>	Agri-Food & Biosciences Institute Dairy Technical Laboratory Newforge Lane Belfast BT9 5PX	02890 255662	<b>Micro Chem</b> – including phosphatase and antibiotics	<a href="https://www.afbini.gov.uk">https://www.afbini.gov.uk</a>	UKAS 1279	28-08-15
<b>FE</b>	Northern Ireland Public Health Laboratory Belfast City Hospital Lisburn Road Belfast BT9 7AD	02890263588	<b>Micro only</b>		UKAS 2017	26-02-16

## Scotland OCLs

Lab Type	OCL Name and Address	Contact details	Milk and Milk Product Tests	Main Contact	UKAS No	UKAS Issue Date
AA PA FE	Aberdeen Scientific Services Laboratory Aberdeen City Council Old Aberdeen House Dunbar Street Aberdeen AB24 3UJ	01224 491648	<b>Micro Chem</b>	<a href="mailto:ASSL@aberdeencity.gov.uk">ASSL@aberdeencity.gov.uk</a>	UKAS 1325	09-04-15
AA PA FE	Edinburgh Scientific Services City of Edinburgh Council 4 Marine Esplanade Edinburgh EH6 7LU	0131 555 7980	<b>Micro Chem</b> - Including phosphatase and antibiotics. SCC not UKAS	<a href="http://www.edinburgh.gov.uk/scientificservices">http://www.edinburgh.gov.uk/scientificservices</a>	UKAS 1005	11-03-16
AA PA FE	Glasgow City Council Glasgow Scientific Services Colston Laboratory 64 Everard Drive Glasgow G21 1XG	014 276 0610	<b>Micro Chem</b> - Including phosphatase, antibiotics and Aflatoxin M1	<a href="http://www.glasgow.gov.uk/en/Business/Protection/ScientificServices">http://www.glasgow.gov.uk/en/Business/Protection/ScientificServices</a>	UKAS 1278	15-03-16
AA PA FE	Tayside Scientific Services Dundee City Council James Lindsay Place Dundee Technopole Dundee DD1 5JJ	01382 307170	<b>Chem only</b> – Including phosphatase and antibiotics.	<a href="http://www.dundee.gov.uk/scientificservices/">http://www.dundee.gov.uk/scientificservices/</a>	UKAS 1639	27-11-15


## Wales OCLs

Lab Type	OCL Name and Address	Contact details	Milk and Milk Product Tests	Main Contact	UKAS No	UKAS Issue Date
FE	Public Health Wales (PHW) Laboratories operating on the following sites:			<a href="http://www.publichealthwales.wales.nhs.uk">www.publichealthwales.wales.nhs.uk</a>		
	Microbiology Bangor Ysbyty Gwynedd Bangor Gwynedd LL57 2PW	01248 384718	<b>Micro only</b>		UKAS 1817	23-06-14
	PHW Microbiology Cardiff Llandough Hospital Penlan Road Penarth CF64 2XX	02920 716745	<b>Micro only</b> – Dairy not specified		UKAS 1591	02-10-15
	Microbiology Carmarthenshire Glangwili General Hospital Carmarthen SA31 2AF	01267 237271	<b>Micro only</b>		UKAS 1810	12-02-13
AA PA	HJ Evans Division Minton Treharne and Davies Ltd Unit 5 Llwyn-yr-Eos Parc Menter Cross Hands Llanelli Carmarthenshire SA 14 6RA	01269 833 990	<b>Chem only</b>	<a href="http://www.minton.co.uk">www.minton.co.uk</a>	UKAS 1946	08-07-15
	Minton Treharne and Davies Ltd. Merton House Croescadarn Close Pentwyn Cardiff CF23 8HF	02920540000				

## Appendix 2

### Agenda: 18<sup>th</sup> Workshop of the EURL/NRLs for Milk and Milk Products, 2015



Agenda of 18th workshop of the EURL/NRLs for Milk and Milk Products – 7 to 9 October 2015 – ANSES Laboratory for Food Safety, Maisons-Alfort, France 

#### Wednesday 7 October 2015

12:00-13:15 Lunch (optional)

13:15-14:00 Registration

14:00-14:20 Welcome and opening of the workshop (Laurent LALOUX, Head of the EURL for Milk and Milk Products (MMP))

14:20-14:45 Presentation of the workshop (Bertrand LOMBARD, EURL MMP)  
Roll call of participants  
Evaluation of 2014 Workshop (Adrien ASSÉRIÉ, EURL MMP))

#### Network

14:45-15:00 Follow-up PT trials for the NRLs (A. ASSÉRIÉ)

15:00-15:30 Break

#### Hygiene of raw milk

(15:30-17:00)

Introduction (Nathalie GNANOU-BESSE, EURL MMP)

Enquiry on official controls for total flora and somatic cells (B. LOMBARD)


2014 PT trial dedicated to total flora in raw sheep's milk (Rabeb HENNEKINNE, EURL MMP)

2015 PT trial dedicated to SCC in raw cow's milk (R. HENNEKINNE)

Critical points for implementation of the reference method for SCC (R. HENNEKINNE)



#### 17:00-17:30 Croatian cheese and wine tasting

Kindly organised by our colleagues from the HR-NRL  
Nataša MIKULEC and Šimun ZAMBERLIN 

Connect «Open\_Anses» WIFI network and in the web browser:



Nom d'utilisateur: wifi-opensanses

Mot de passe: Anses94700

#### Lunches

Thursday (13:00-14:00)

On demand for Wednesday (12:00) and Friday (13:00)

#### Thursday 8 October 2015

##### Hygiene of raw milk (2/2)

(9:00-13:15)

Quantification of TF at 30°C in raw cow milk by an instrumental method (N. GNANOU-BESSE)

WG Harmonisation of the conversion characteristic (N. GNANOU-BESSE)

Revision of the ISO 21187/IDF 196 and applicability of conversion factor (Vesela TZENEVA, QJIP, NL)

10:30-10:45 Break

Impact of stabilizer agents on total flora enumeration and conversion relationship (R. HENNEKINNE)

Microal certification of Bactocount and Bactoscan for Total Flora (V. TZENEVA)

IDF ICAR reference system for SCC (Thomas BERGER, Agroscope, CH-NRL)

Development of CRM for SCC in raw milk (R. HENNEKINNE)

Hygienic quality of mare milk (Karin KNAPPSTEIN, MRI, DE-NRL)

13:00-14:00 Lunch

##### Pasteurisation tracers 1/2

(14:00-16:30)

Introduction (Hanène GHEZZAL, EURL MMP)

2015 PT trial: ALP in cow milk (Anne-Cécile BOITELLE, EURL MMP)

European survey on ALP activity in pasteurized cow milk cheeses (H. GHEZZAL, EURL MMP)

15:15-15:30 Break

ALP determination in cream (Luiza PELLEGRINO, invited expert and H. GHEZZAL, EURL MMP)

##### Social event

A common dinner is organized on Thursday evening

Restaurant of « Les Noces de Jeannette »

common departure from Ecole Veterinaire d'Alfort Metro line 8 Station at 5.00 pm

Please do not forget to take in advance one metro ticket with you

#### Friday 9 October 2015

(9:00 -9:25)

Public health risks related to the consumption of raw drinking milk, EFSA opinion (Moez SANAA, ANSES, FR)

##### Pasteurization tracers 2/2

(9:30-11:45)

Reference Materials (RMs) for ALP determination

➤ EU survey on NRLs needs regarding RMs for ALP determination (H. GHEZZAL, EURL MMP)

➤ Preliminary results of the collaborative study of expert laboratories for the definition of consensus values of RMs for ALP determination in dairy products. (Anna Maria FERRINI, ISS, IT-NRL)

Current status in the development of a microwell method for the Analysis of Alkaline Phosphatase Activity (Charlotte EGGER, Agroscope, CH-NRL)

10:30-10:45 Break

Update of the standardization work - outcome of last IDF ISO analytical week (H. GHEZZAL, EURL MMP)

##### Conclusion of the workshop

Proposals of programme of work for 2016 and 2017 (N. GNANOU-BESSE)

Any other items

Closure

13:00-14:00 Lunch optional

##### Visit of the Laboratory

(14:00-15:00)

Visit of the Laboratory for the new workshop participants optional

##### Important

Note that the meeting will be held at the laboratory:  
14, rue Pierre et Marie CURIE, MAISONS-ALFORT  
Copernic Building – Snow meeting

## Report on the workshop of the EURL/NRLs for Milk and Milk Products, 2015

The 2015 workshop was held at ANSES - Food Safety Laboratory, 23, Avenue du Général de Gaulle, Maisons-Alfort, France, on October 7-9. The meeting agenda is above. The UK NRL was represented by Dr R. Madden and Dr N. Corcionivoschi of AFBI. Prior to the workshop a meeting by the Working Group on harmonisation of conversion factors was held, chaired by Dr Bertrand Lombard in the absence of Jacques-Antoine Hennekinne, Head of the unit SBCL: Staphylococci, Bacillus, Clostridia and

Milk. Dr Hennekinne has now been replaced as head of this working group by Dr Nathalie Gnanou-Besse.

The Working Group meeting included a presentation by Dr Nathalie Gnanou-Besse, detailing all of the data made available to the working group to date, and concluded that, from a statistical point of view, a harmonised conversion equation appeared to be feasible. Dr Madden noted that data were currently being collected in the UK and that they could be provided in due course, but the chairman responded that sufficient data had been collected. Dr Madden also noted that payments to farmers in GB were based on BactoScan values, rather than total viable counts (TVC), hence the consequences from adopting a standardised conversion factor were probably less significant than in countries where TVC limits were used.

In his absence of the head of the EURL, Dr Laurent Laloux, the Workshop was opened and chaired by Dr Bertrand Lombard. A total of sixteen presentations were made during the meeting, as per the attached agenda. All of the presentations were made available on the EURL website.

The EURL indicated that work will be undertaken with regard to the assessment of an open method for the determination of alkaline phosphatase (AP), using a plate reader. This is in order to reduce the costs of the test, which suffers from large differences in the costs of commercial reagents for dedicated machines. Dr Corcionivoschi noted that AFBI has suitable equipment to participate in the proposed trials.

A survey of AP in cheeses made from pasteurised milk was presented, and wording to be proposed to DG Sanco for the interpretation of results was provisionally agreed. Dr Madden's suggestion for cheeses exceeding the limit was accepted, subject to defined wording being formulated. He proposed a general wording covering all processing conditions, rather than limiting it to smear ripened cheeses, which are the only type

found to give anomalous values, to date. This should ensure flexibility in future, and put the onus on the processor to provide a valid explanation for any cheeses having AP activity above the EU limit being proposed by the EURL.

Once again future studies on pasteurised cream were proposed, and a presentation on the wide variety of creams available was made by Prof Luisa Pellegrino. Accordingly it was proposed that as a first action a survey of the types of cream on routine retail sale in member countries should be conducted by NRLs. Hanène Ghezzal of the EURL will initiate contact with the NRLs.

A presentation on the EFSA opinion on risks of consuming raw milk was made by Dr Moez Sanaa, of Anses, who noted the risk factors that the group had considered significant, including tick borne encephalitis virus (TBEV) which is endemic in Eastern Europe. He also noted that the group had evaluated and excluded *Yersinia pseudotuberculosis* as a potential risk, but that there had been a subsequent outbreak of illness caused by this organism in Finland in 2014.

The recent FSA opinion on consumption of raw milk appeared to be in accord with the EFSA opinion.

It was also noted that DG Sanco has revised the working arrangements for EURLs and in future work will be organised in two year phases. It has also revised the funding such that the annual EURL Workshop will have to be based at Anses, Maisons Alfort. That was disappointing as Dr Corcionivoschi and Dr Madden had prepared an outline proposal for bringing the meeting to Belfast in 2016.

R. Madden

Oct 14 2015.

## Appendix 3

### Report on IDF/ISO Analytical Week 13 – 17 April 2015, Namur Belgium.

Dr R Madden attended two days of IDF/ISO Project group meetings, on behalf of the FSA. Prior to the meetings he met with Ms Bhavna Parmar of the FSA to have general discussions around the subject of the NRL, and the IDF/ISO meetings. He attended the Standing Committee on Harmonisation of Microbiological Methods (SCHMM) on April 15 and the Standing Committee on Analytical Methods for Dairy Microorganisms (SCAMDM) on April 16. Dr Madden attended both meetings as an observer and his presence was recorded by the secretariat.

At the SCHMM it was noted that the revision of EN ISO 7218 Microbiology of food and animal feeding stuffs -- General requirements and guidance for microbiological examinations, will be modified to allow identification by use of Maldi-tof, as well as conventional phenotypic methods.

Revision of EN ISO 6579, detection of *Salmonella*, is being undertaken to incorporate wider temperature ranges to allow USA methodology to fit within the ISO. For example the pre-enrichment temperature will be lowered to allow it to take place at 35°C, however studies at AFBI have shown that this is well below the optimal temperature of 39-41°C.

The role of skim milk in ISO 4833 was debated, as the scopes of part 1 and part 2 were felt to be unclear. Hence the use of plate count agar, with or without skim milk, was discussed. The head of the EURL for Milk agreed to consider the matter as a possible task for the laboratory.

Other modifications proposed were:

ISO 11290-1/-2, Detection of *Listeria*, where the incubation in full strength Fraser broth will be reduced from 48 h to 24 h.

ISO 19020, Staphylococcal enterotoxins, where it was found that dialysis is essential to achieve acceptable sensitivity.

ISO 16649-1/-2, Enumeration of *E. coli* using fluorogenic substrate, where harmonisation with the dairy methodology, ISO 11866-1:2005 was seen as the way forward.

Finally a general observation that the active participation by the people's Republic of China was seen as essential in the future to prevent standards being adapted purely for that country.

At the SCAMDM meeting detailed consideration of the application of qPCR to the enumeration of starter cultures was given. However, the lack of taxonomic certainty surrounding some species, e.g. the precise relationship between *Lactobacillus casei* and *Lactobacillus paracasei* was seen as problematic. However, flow cytometry was seen as an appropriate methodology to be developed.

A study to define methodology for the enumeration of *Bifidobacteria* was debated at length, and considered for progression towards acceptance as an ISO standard.

During discussions Dr Madden made contributions, from his experience in isolation and characterisation of microorganisms, hence the UK NRL was able to make small contributions to the overall work of the committees.

R. Madden

21 April 2015

## Appendix 4

Proficiency testing trial for the determination of alkaline phosphatase activity in cow's milk. The UK-NRL is laboratory number 18



**Laboratory For Food Safety**

SBCL Unit /Milk Team  
Pasteurization Tracers for MMP



**EURL MMP**

European Union Reference Laboratory  
for Milk and Milk Products  
<http://eurl-milk.anses.fr>

**INTERLABORATORY PROFICIENCY TEST  
FINAL REPORT EILA / ANSES / LSAL / SBCL / 2015 / 06**

**DETERMINATION OF THE ALKALINE PHOSPHATASE ACTIVITY  
IN COW MILK**

**Date of ILPT: NOVEMBER 2015**

Final Report - Version 1

ILPT CODE : EILA / ANSES / LSAL / SBCL / 2015 / 06

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## Appendix 5

Proficiency testing trial for the enumeration of microorganisms at 30°C in raw sheep's milk. The UK-NRL is laboratory number 6.



Maisons-Alfort Laboratory  
For Food Safety

Staphylococci, Bacillus, Clostridia  
and Milk Unit (SBCL)



European Union Reference  
Laboratory

Milk and Milk Products

INTERLABORATORY PROFICIENCY TEST-PRELIMINARY REPORT  
EILA / Anses LSAL / SBCL / 2014 / 08

INTERLABORATORY TRIAL ON ENUMERATION OF  
MICROORGANISMS AT 30°C IN RAW SHEEP'S MILK

Date of ILPT: December 2014

Preliminary Report - Version 1

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