NMKL Newsletter
No. 63
December 2006

Newsletter for
The Nordic Committee on Food Analysis

FROM NMKL'S 60TH ANNUAL MEETING, LOFOTEN, AUGUST 2006

Contents

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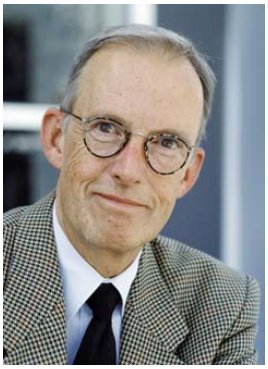
Wearing the venerable chairman chain of 1962, the NMKL chairman, Dir. Ole Bjørn Jensen, opened the NMKL's 60th Annual Meeting.

About 60 NMKL members from Denmark, Finland, Iceland, Norway and Sweden participated at the meeting, which was held at Anker Brygge, Svolvær, Lofoten in wonderful weather at the end of August. In connection with the annual meeting, the accreditation bodies of the Nordic countries held their harmonisation meeting.

Chariman chain


NMKL chair Dir. Ole Bjørn Jensen


Anker Brygge, Svolvær


Sunset in Lofoten

The members of NMKL are all experts, and members of one of the five NMKL national committees. The members represent food control authorities, the food industry and research laboratories as well as private laboratories.

The Annual Meeting is the forum in which the members discuss all the topics on the NMKL working programme. The amount of work is extensive, and covers about 50 different projects (see page 7).

The Annual Meeting is a unique meeting place for the participants. The discussions can be very lively in the technically strong but informal and sociable cooperative forum. Most of the work is carried out in four sub-committees.

The administrative committee is chaired by the NMKL chairman Dir. Ole Bjørn Jensen. The microbiological committee is chaired by Dr. Lis Nielsen, Denmark, the chemical committee is chaired by Prof. Kåre Julshamn, Norway and the committee for sensory analysis is chaired by Dr. Halina Agerhem, Sweden.


Chairs of the sub committees f.l.: Lis Nielsen, Kåre Julshamn and Halina Agerhem

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AWARDS

For a great many years, several NMKL members have made important contributions in elaborating methods and procedures within the Nordic cooperation. The work they have put in is of the highest quality and very much appreciated. At the NMKL's 60th Annual Meeting, awards were presented for 40, 30 and 20 years membership, respectively.

40 YEARS MEMBERSHIP

Professor Niels Skovgaard, Denmark, has been involved in NMKL since 1967. Skovgaard was the chair of NMKL in the period 1987-1989, and chaired the Danish national committee from 1974 to 1989. In addition, Skovgaard was the chairman of the microbiological committee for several years. Professor Skovgaard also participates in other international forums such as CEN, ISO and ICMSF.

30 YEARS MEMBERSHIP

Managing Director Ole Bjørn Jensen, Scanpharm, Denmark has been a member of NMKL since 1976, and has been the chairman of NMKL as well as the chairman of the Danish national committee since 1989.

Professor Kåre Julshamn, National Institute of Nutrition and Seafood Research, Norway has been involved in NMKL since 1977. Julshamn was the chairman of the Norwegian national committee during 1990-1998, and has been the chairman of the chemical committee of NMKL since 1984. Julshamn is NMKL's representative in CEN/TC 275's working group for heavy metals.

Managing scientist of microbiology Per Norberg, National Food Administration, Sweden has been a member since 1977. For several years, he was the chairman of the microbiological sub-committee. Previously, he represented NMKL in the microbiological committees of CEN and ISO. For many people, Norberg is well-known due to his involvement in proficiency testing schemes on microbiology arranged by the National Food Administration in Uppsala.

20 YEARS MEMBERSHIP

Senior adviser Harriet Wallin, Finnish Food Safety Authority has been a member since 1985, when she entered the position of NMKL Secretary General. In 1997, to everyone's great disappointment, she had to renounce the position. Luckily, she remained in NMKL as the chairperson of the Finnish national committee.

Laboratory Manager Ulla Edberg, National Food Administration, Sweden has been a member of NMKL since 1986, and has since 1990 been the chairperson of the Swedish national committee. Edberg is NMKL's representative in CEN/TC 275's technical committee, as well as in the working group for sulphite.

Veterinary Sven Qvist, Danish Institute for Food and Veterinary Research has been involved in NMKL since 1988. Qvist realised early on that there was a need for validating alternative microbiological methods. When NMKL did not consider it possible to include test kits in their working programme, NordVal was established, and Sven Qvist was the obvious leader.

WITHDRAWAL OF NMKL METHOD:

Collaboratively validated methods are reviewed every 10 years, other methods are reviewed every 5 years. If methods are no longer in use, due to the fact that they no longer fulfil sensitivity requirements or describe reagents or instruments that are no longer in use, the method is withdrawn from the method collection.

The NMKL Annual Meeting decided to withdraw the following NMKL Method:

- No. 45, 1962: Determination of peroxide value of pure fats, butter and margarine.

Price list

NMKL CAN OFFER THE FOLLOWING PRICES IN 2007:

- Online subscription, a complete method collection with continuous updates: For existing subscribers: NOK 3 000 for 1-3 users.
- New subscription for online method collection: NOK 5 000
- Annual hard copy subscription: NOK 2 000
- Annual electronic subscription via e-mail: NOK 1 500
- Single NMKL Methods: NOK 400
- Single NMKL Procedures (guidelines): NOK 300

THE REFEREE OF THE YEAR: SEMIR LONCAREVIC, NATIONAL VETERINARY INSTITUTE, NORWAY

The referees are NMKL's most important resource. The referee is the person who is in charge of elaborating and editing methods, and organising collaborative studies. In recent years, NMKL has invited a referee to the annual meeting to present their work. This year, Semir Loncarevic from the National Veterinary Institute of Oslo, was invited to present the method study of *Listeria monocytogenes* (quantitative and qualitative analysis) as well as the study of *Yersinia enterocolitica.* The aim of the studies is to evaluate the methods collaboratively with regards to the methods' performance characteristics, like precision and trueness.

COLLABORATIVE STUDY OF AN NMKL METHOD FOR QUALITATIVE AND QUANTITATIVE ANALYSIS OF *LISTERIA MONOCYTOGENES* IN FOODS AND FEEDS (REVISED NMKL METHOD NO. 136)

Semir Loncarevic and the Veterinary Institute has organised the most extensive microbiological collaborative study conducted in NMKL. The project received financial support from EK-Livs. 19 laboratories expressed an interest in participation. 48 samples were shipped to the participants, 24 test samples for the qualitative analysis and 24 for the quantitative part. The samples consisted of vacuum-packed hot-smoked salmon, soft cheese, ham and wheat grain inoculated with high and low levels of *L. monocytogenes* with or without *L. innocua*. Samples incoluated with *L. innocua* were used as negative control samples. The collaborative study was conducted in 2004.

The method to be studied, was elaborated by Tuula Johansson, Finnish Food Safety Authority, Finland, and proposes the following:

- to replace the obligatory specific culture media, Oxford and PALCAM, with chromogenic *L. monocytogenes* specific medium, as ALOA
- to make the other selective plating medium optional
- to inoculate on Half-Fraser enrichment broth in addition to Fraser broth
- to replace the semi-quantitative method with a quantitative method

The media tested in the study were:

- ALOA One Day (ALOA) from AES - ready-to-use agar in bottles with supplements
- *Listeria* Chromogenic Agar HAL010 (Agosti and Ottaviani *Listeria* agar) (LCA) from Lab M - dehydrated powder with supplements
- Chromogenic Listeria Agar Plate (OCLA) from Oxoid - ready-to-use plates
- LMBA from Lab M - dehydrated powder with supplements

At the NMKL Annual Meeting, Semir Loncarevic informed our members about the results and concluded that:

- Statistically, there was no significant difference between the sensitivities of the media compared.
- The specificity and selectivity were satisfactory for the samples tested.
- The precision, repeatability and reproducibility for the determination of *L. monocytogenes* were satisfactory for the samples with the exception of wheat grain.
- The specific *L. monocytogenes* culture media that was tested, shortens the time of analysis and reduces the amount of work considerably.
- Most of the positive samples were detected after Half-Fraser inoculation, which also shortens the time of analysis, as no further incubation is needed. Samples with a low level of *L. monocytogenes*, samples with a high background flora and samples with damaged *L. monocytogenes* do, however, need additional inoculation.

The final method, with results included from the collaborative validation study, will be ready some time during Spring 2007.

COLLABORATIVE VALIDATION FOR DETECTION OF *YERSINIA ENTEROCOLITICA* IN FOODS. (REVISION OF NMKL METHOD NO 117 = ISO 10273:2003).

Semir Loncarevic and the National Veterinary Institute have also organised a collaborative performance study on a method for detection of *Yersinia enterocolitica*. The revised NMKL method is identical to ISO 10273:2003 "Microbiology of food and animal feedings stuffs - Horizontal Method for the detection of presumptive pathogenic *Yersinia enterocolitica*". ISO has permitted NMKL to study the method collaboratively, and possibly adopt the method. The method performance study was arranged in 2005. NMKL and the Veterinary Institute financed the study together with the participating laboratories. Fifteen laboratories, including laboratories outside the Nordic countries, signed up for participation. In the end, nine laboratories participated, and the matrixes studied were boiled ham, raw minced pork meat, lettuce and bean sprouts.

The participating laboratories received the method description and analysed the samples for *Y. enterocolitica* by enrichment with two different selective media. The samples were diluted 1:100 in ITC medium and incubated at 25°C for 2 days, and 1:10 in PSB broth for incubation at 25°C for 3-5 days. Sub-cultures on two different selective agar media, CIN (with and without alkali treatment) and SSDC, were made from both enrichments. The plates were incubated at 30°C for 24 or 48 hours. Presumptive colonies were tested biochemically and serologically.

Collaborative validation:
Matrixes: Boiled ham, raw minced pork meat, lettuce and bean sprouts
Levels: Low: 140 cfu/25g High: 14000 cfu/25g
Number of laboratories: 9
Results: None detected *Y. enterocolitica* in bean sprouts (neither high nor low levels)
None detected *Y. enterocolitica* in lettuce with a low level.
Only 1 of 9 laboratories detected *Y. enterocolitica* in lettuce with a high level.

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Only 15% of the results were correctly reported as positive at low levels in boiled ham and raw minced pork meat - hence the sensitivity is not satisfactory for low levels.
For high levels (14000 cfu /25g) in ham and minced meat, respectively, the results are given in the following table:

Sample	Boiled ham (14000 cfu/25g)				Raw pork minced meat (14000 cfu/25g)			
Culture Medium	PC	PKC	IS	IC	PC	PKC	IS	IC
No. of labs	9	9	9	6	9	9	9	6
No. of results	18	18	18	12	18	18	18	12
No. of positive samples	9	14	13	6	5	11	8	8
Relative sensitivity (%)	50	78	72	50	28	61	44	67

PC: enrichment in PSB broth + CIN
PKC: enrichment in PSB broth + CIN with alkali treatment
IS: enrichment in ITC broth + SSDC-agar
IC: enrichment in ITC broth + CIN

The table shows that for raw minced pork meat and boiled ham with a high inoculated level, the sensitivity was up to 70% and 80%, respectively. The specificity, i.e. negative results expected to be negative, was satisfactory. The specificity is, however, not so interesting when the sensitivity is low, as the problem is rather to obtain positive samples. It is agreed upon that there is a need for improving the method.

This method, i.e. ISO 10273:2003, is given as a reference method in connection with EU Directives. This collaborative study shows how important it is that methods are performance tested, especially when they are presented as so-called reference methods.

Loncarevic emphasised that the work as referee and organiser of method performance studies has been interesting and instructive, and equally important, has given him the opportunity to create an important network with Nordic and international colleagues. He also stressed the need for user-friendly guidelines for statistical analysis and evaluation of the results.

NEW METHOD:
NMKL METHOD NO. 95, 4. ED., 2006: *CLOSTRIDIUM PERFRINGENS.* DETERMINATION IN HEATED FOODS.

The method describes a quanitative analysis of *Clostridium perfringens* in heated foods. The method is applicable for products where the background growth is not too high. It is not satisfactory for analysis of matrixes with high background growth.

Cl. perfringens is quantitatively determined by spreading known amounts of sample on mCP agar and/or on TSC agar. The plates are incubated anaerobically for 24 ± 3 hours at 37.0 ± 1.0°C. Colonies of *Cl. perfringens* are yellow to grey on mCP agar, 3-6 mm in diameter, and produce a yellow colour change in the agar around the colonies. An acid phosphatase test is performed with ammonia, and a positive reaction is visualised as a red colour change.

Cl. perfringens colonies are black on TSC agar. Non-motile, Gram positive bacteria producing black colonies on TSC agar, and producing acid and gas from lactose and sucrose, may be identified as *Cl. perfringens.* Additional information is obtained from anaerobic incubation of blood agar plates for 24 ± 3 hours at 37.0 ± 1.0 °C. Colonies of 1-6 mm surrounded by a double haemolytic zone may be considered as *Cl. perfringens*. In some cases, the haemolysis is not seen until after 48 ± 4 hours.

This revised NMKL method was elaborated by **Øyvin Østensvik**, Department of Pharmacology, Microbiology and Food Hygiene, Norwegian College of Veterinary Medicine, Oslo, Norway. **Kofitsyo Cudjoe**, Department for Food and Feed Hygiene, National Veterinary Institute, Oslo, arranged the collaborative study of the method.

EK-Livs contributed financially to the collaborative validation, in which 14 Nordic laboratories participated. Minced meat, bone meal and lobscouse inoculated with high and low levels of *Cl. perfringens* strains (A and B), were included as matrices. The performance study, which included two culture media, TSC and mCP, showed no statistically significant differences in the results of these media. Even though mCP is less resource-demanding, both in terms of work-load and time, it is recommended to use both media. The reason for this is a possibility of a higher background flora with mCP agar. The results in the following table show that the method is applicable for lobscouse and minced meat.

		Minced meat				Bone meal				lobscouse			
		Low		High		Low		High		Low		High	
		A	B	A	B	A	B	A	B	A	B	A	B
No. of labs with valid results		2	7	13	14	4	2	10	8	12	14	13	12
Replicates		2	2	2	2	2	2	2	2	2	2	2	2
Mean (l log cfu/g)		2.3	2.6	5.2	5.4	2.0	2.3	4.4	4.7	2.3	2.7	5.3	5.3
Repeat-ability	Std dev. sr (log cfu/g)	-	0.2	0.2	0.1	-	-	0.4	0.5	0.3	0.2	0.2	0.1
	Rel.Std dev. RSDr (%)	-	7.0	4.0	2.0	-	-	10	9.9	12	7.3	4.6	1.3
	- limit. r (log cfu/g)	-	0.5	0.6	0.3	-	-	1.1	1.3	0.8	0.5	0.7	0.2
Reprodu-cibility	Std dev. sr (log cfu/g)	-	0.4	0.6	0.3	-	-	0.80	0.50	0.41	0.28	0.21	0.24
	Rel.Std dev. RSDR (%)	-	15	5.5	4.6	-	-	18	10	18	10	4.0	4.6
	- limit. R (log cfu/g)	-	1.1	0.8	1.1	-	-	2.2	1.4	1.1	0.77	0.58	0.68

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We would like to thank the referees Øyvin Østensvik, Norwegian College of Veterinary Medicine, and Kofitsyo Cudjoe, National Veterinary Institute, for their extensive work. We would also like to convey our gratitude to the Nordic experts involved in the project, for their valuable contributions: Lis Nielsen, Danish Veterinary and Food Administration, Tuula Johansson, Finnish Food Safety Authority, Margret Geirsdottír, the Environment and Food Agency of Iceland, Christer Wiberg, National Food Administration, Sweden.

Generally, failing in the cooling of heated foods are the main cause of *Cl. perfringens* poisoning. The source of an outbreak can usually be found in spices or similar. Furthermore, experts state that it is not relevant to examine *Cl. perfringens* in raw minced meat, as the bacteria is unable to multiply in this matrix. This was one of the reasons why the NMKL Annual Meeting 2006 decided to limit the method to heated foods.

QUESTIONS FOR THE NMKL GENERAL SECRETARIAT:

1) Are NMKL methods accepted internationally?

2) Can NMKL methods still be used according to the new food law, hygiene directive and the new microbiological criteria of the EU?

Lately, such questions have been forwarded to the NMKL's General Secretariat from several Nordic laboratories.

1) **Yes, NMKL methods are recognised internationally because**:

- NMKL validates methods according to internationally accepted rules. NMKL is one of the organisations with the longest experience within method validation.
- The methods and the validation reports are available to everyone. The methods are published in one of the Scandinavian languages, as well as English and Finnish. Most of the validation reports are published in refereed journals. NMKL also has the other reports available.
- NMKL is a non-governmental organisation in Codex, and has interests from more than 40 countries outside the Nordic countries.

2) Yes, microbiological NMKL methods can and should still be in use under the new directives.

According to EU Commission Regulation No. 2073/2005 of 15 November 2005 regarding microbiological criteria for foods, methods validated according to international rules may be used. Validated NMKL methods fulfil those criteria and article 5 of the directive says:

> "If the food business operator wishes to use analytical methods other than those validated and certified as described in paragraph 3, the methods shall be validated according to internationally accepted protocols, and their use authorised by the competent authority."

In the EU Commission Regulation No. 2073/2005 regarding microbiological criteria for foods, only ISO methods are given as reference methods, even though several of these are not performance tested collaboratively. The lacks of validations have been widely criticized. The EU Commission has therefore given the European Standardisation Organisation (CEN) a mandate to arrange collaborative validations of the reference methods. In the mandate, the EU has also requested that organisations such as NMKL take part in the work. At a meeting in the microbiological committee (WG 6) in CEN/TC 275, held on 28 and 29 June, 2006, NMKL offered validated methods to CEN, and will thereby contribute to the validation of the methods given in Regulation No. 2073/2005.

In a more comprehensive letter to the Nordic national food administrations dated 3 July, NMKL requested that the food laboratories are informed of the fact that there is no need for them to replace methods, provided they use collaboratively validated methods. As collaboratively validated methods satisfy the requirements according to EU Regulation No. 2073/2005 these methods may be considered as equal to the reference methods, some of which have not yet been validated.

The notion that a method is satisfactory just because it is an international standard, was disproved by the validation of *Y. enterocolotica*, described on page 3. That study shows the importance of validating all methods collaboratively.

DR. WILLIAM HORWITZ

THE FATHER OF METHOD VALIDATION, PASSED AWAY 27 SEPTEMBER 2006.

Dr. Horwitz worked for the U.S. Food and Drug Administration (FDA) from 1939 until July 2000, and was the Executive Director of AOAC International for more than 28 years. He was the editor of six editions of OMA, AOAC's method collection, and worked as a volunteer for AOAC to the very last. It was during his time as Executive Director that the cooperation between AOAC and NMKL came about. Dr. Horwitz was an important person in Codex and ISO work, as indeed in all aspects of method validation. He has received several awards from the U.S. Department of Health and Human Services, and was the first person to receive AOAC's Harvey W. Wiley Award (1995). In 2000, Dr. William Horwitz received the prestigious Robert Boyle Medal from the Royal Society of Chemistry. This distinction was given to him for his contribution in maintaining a high quality within analytical measurements and the statistical processing of data, including the discovery of the Horwitz function, which connects the reproducibility of such measurements with the analyte concentration. The Horwits function and HorRat values are important tools used to assess validation data.

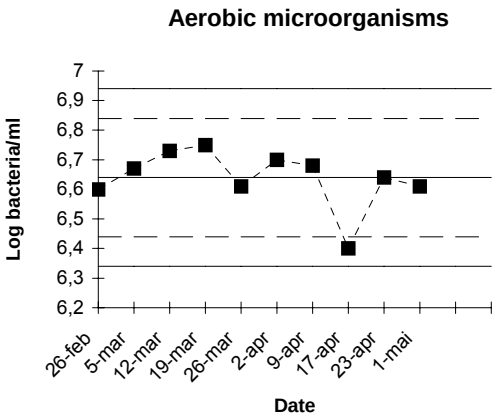
Dr. William Horwits and NMKL's Secretary General Hilde Skaar Norli (at an AOAC meeting in 2001.)

New NMKL Procedure.

No. 18, 2006: THE USE OF REFERENCE MATERIALS, REFERENCE STRAINS AND CONTROL CHARTS IN A FOOD MICROBIOLOGICAL LABORATORY

An important part of a laboratory's quality assurance, is its internal quality control, defined as all the procedures undertaken by a laboratory for the continuous evaluation of its work. Reference materials and reference strains are efficient and essential tools in this evaluation process.

This procedure presents the principles of the use and handling of reference materials and reference strains in quantitative and qualitative analysis, how frequent reference materials should be used, how to make control samples and how to utilise the information the results from control samples provide, by drawing control charts.



Reference materials contain a specified or agreed amount of certain microorganisms or mixture of microorganisms. Reference materials are commercially available and can be purchased as certified or non-certified materials. Reference materials produced in individual laboratories, should be referred to as control materials (control samples).

A reference strain is a microorganism defined to at least the genus and species level, catalogued and described according to its characteristics and preferably stating its origin. Reference strains are normally obtained from a recognised national or international collection.

Thanks are given to the project group and their institutions, for their valuable contributions:
Finland: Tuula Pirhonen, National Veterinary and Food Research Institute (EELA), (project leader)
Denmark: Lis Nielsen, (then employed at) Regional Veterinary and Food Control Administration, Vejle
Iceland: Dora Gunnarsdottir, the Environment and Food Agency
Norway: Ivar Hellesnes, (then employed at) Municipal Food Control Authority of Trondheim,
Anne Graendsen, (then employed at) Norwegian Institute for Food and Environmental Analysis
Sweden: Eva Nerbrink, Cerealia R&D
A special thanks to Dr. Pirhonen for leading the project and being the author of the procedure.

Will there be any food safety consequences as a result of the changes of the laboratory structure in the Nordic countries?

During the first two days of February 2006, a Nordic workshop was held in Sigtuna, Sweden, with about 30 participants. Each of the Nordic countries was represented.

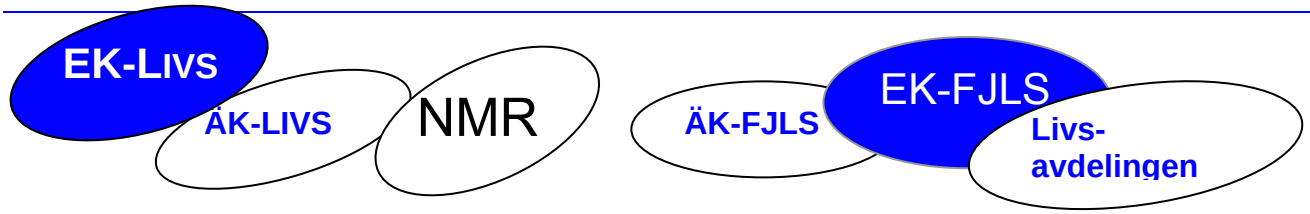
The workshop opened by describing requirements and needs in relation to laboratory services, based on the new control regulation (EG 882/2004) from a risk validation, legislation and inspection aspect. The change in the laboratory structure, which in all the Nordic countries has brought about a decrease in the number of laboratories, was described to the participants. Later, the consequences this change may have for food safety were discussed. The needs for analytical services in maintaining emergency preparedness, were also discussed.

The workshop was concluded with a discussion on how to maintain sufficient and quality assured analytical data in the future, thus ensuring that Nordic consumers are still guaranteed safe food of high quality.

There is great concern that today's Nordic laboratories, which are already too few, will not have (or even do not have) the resources and competence necessary to support the food control authorities, so that they may fulfil the requirements and needs which are described in the control regulation. The need for competent laboratories within both chemistry and microbiology in emergency situations was addressed by several lecturers. How to best support and develop the Nordic food laboratories in emergency situations should be discussed in the new department for Foodstuffs in the Nordic Council of Ministers.

Extract from the report from the workshop arranged 1-2 February 2006 by ÂK-Livs/NMKL in Sigtuna, Sweden

The report has been elaborated by the project leader: Ulla Edberg, The National Food Administration, Uppsala, Sweden. The complete version of the report is available in Swedish on the NMKL WEB page. The workshop was financed by the Foodstuffs department of EK-FJLS in the Nordic Council of Ministers.



In the NMKL newsletter and other NMKL publications, our readers often encounter abbreviations such as NMR, EK-Livs, ÂK-Livs, and now also EK-FJLS and ÂK-FJLS. **What do these abbreviations stand for, and in what way are they connected with NMKL?**

NMR = THE NORDIC COUNCIL OF MINISTERS. The Nordic Council of Ministers was founded in 1971, and is a cooperation forum for the Parliaments and governments of the Nordic countries. The overall responsibility for the Nordic Council of Ministers lies with the respective Prime Ministers. In spite of the name, there is not one, but rather several individual councils, in which the Nordic ministers for specific policy areas meet a couple of times a year. The chairmanship, which is held for a period of one year, rotates between the five Nordic countries. This year, Norway has had the chairmanship. Next year, it is Finland's turn.

MR-FJLS = THE COUNCIL OF MINISTERS FOR FISHERIES AND AQUACULTURE, AGRICULTURE, FOOD AND FORESTRY is one of the Councils of Ministers, which is the meeting forum for the ministers. Issues that are discussed here, are prepared and followed up on in the various Committees of Senior Officials (ÂK or EK), whose members are all national civil servants. This year, there has been a reorganisation of the Committees of Senior Officials.

EK-LIVS / ÂK-LIVS = THE NORDIC COMMITTEE OF SENIOR OFFICIALS FOR FOOD ISSUES, was the forum for representatives from the Nordic food control authorities. EK-Livs worked with issues of principle, food control and legislation, and decided which Nordic projects should be granted financial support. It was through EK-Livs that NMKL was awarded money for maintaining NMKL's General Secretariat and given financial support for various projects. EK-Livs was closed in the reorganisation of the Committees of Senior Officials. This also applies to the working groups under EK-Livs. New, but fewer, working groups organised under the department for **FOOD POLICY (LIVSAVDELINGEN)** in **EK-FJLS = THE NORDIC COMMITTEE OF SENIOR OFFICIALS FOR FISHERIES AND AQUACULTURE, AGRICULTURE, FOOD AND FORESTRY**, will be established in 2007. The department for Foodstuffs will to a certain extent take over the tasks previously assigned to EK-Livs, but will have a more political focus. Hopefully, the department will see the usefulness and the savings for each individual country inherent in the Nordic cooperation within analytical methodology through NMKL.

EXTRACT OF NMKL'S WORKING PROGRAMME

MICROBIOLOGICAL

Method drafts expected on:
- *Clostridium botulnium* + botulinum toxin
- Pathogenic *Vibrio* species
- Aerobic count on blood agar

Method drafts for approval:
- *Salmonella* - MSRV method
- Lactic acid bacteria

Collaborative studies for approval:
- Thermotolerant *Campylobacters*
- *Listeria monocytogenes*
- *Yersinia enterocolitica*

Procedures /Guidelines under elaboration:
- Guide in quality assurance
- Guidelines and acceptance criteria for collaborative studies of microbiological methods
- Measurement uncertainty
- PCR analysis

CHEMICAL

Method draft expected on:
- Fatty acids. Trans fatty acids and CLA

Method drafts for approval:
- Vitamin K_1 and K_2 - by HPLC
- PAH

Method for collaborative study:
- Acryl amide

Study reports for approval:
- Nitrate. Enzymatic determination
- Heavy metals - by ICP-MS

Projects /Procedures (Guidelines) under elaboration on:
- Brominated flame retardants
- Evaluation of analytical results derived from certified reference materials
- Procedure for calibration of NIR and IR
- Guide for evaluation of immuno chemical test kits for food analysis
- Guide for quality assurance for chemical food laboratories
- Conversion of the methods for trace elements into criteria (for CCMAS)
- Single Laboratory Validation of chemical analytical methods – courses (in Proc 4)
- Recovery. Estimation and expression.

SENSORY

Procedures under elaboration on:
- Sensory evaluation of food packages
- Sensory analysis of fish and shellfish.

Course:
- Sensory quality control of drinking water.

HORISONTAL PROJECTS

- Database of expert laboratories
- Evaluation of results from qualitative methods.

Proposed projects for which there has not yet been appointed a project leader, have not been included in the working programme.

NMKL ARRANGES COURSES IN
METHOD VALIDATION
OF CHEMICAL METHODS

The course is based on NMKL prosedure No 4, 2. Ed. 2005: Validation of chemical analytical methods.

Time/ place:
- March 1 - 2 at the Danish Institute for Food and Veterinary Research, Copenhagen
- March 5 - 6 at the National Veterinary Institute, Oslo, Norway
- March 8 - 9 at the Finnish Food Safety Authority (EVIRA), Helsingfors
- March 19 - 20 at the National Food Administration, Uppsala, Sweden
- March 22 - 23 at the Technological Institute of Iceland, Reykjavik

Lecturers:
- Joakim Engman, National Food Administration, Sweden
- Torben Leth, Danish Institute for Food and Veterinary Research
- the accreditation body of the country (SWEDAC in Iceland)

Language:
English in Finland and Iceland.
Scandinavian/English in the Scandinavian countries

Target group:
Scientists within Chemistry

NORDTEST IS ARRANGING A WORKSHOP:
UNCERTAINTY IN SAMPLING

Time / place: 12-13 April 2007, at Pharmakon Konferansesenter, Hillerød, Denmark

Eurachem/EUROLAB/CITAC/Nordtest are currently working on a guide concerning uncertainty in sampling. The guide shall, according to plan, be completed at the beginning of 2007, and will have the following title: **Estimation of measurement uncertainty arising from sampling.** The guide will have a practical as well as theoretical approach to estimating measurement uncertainty.

In parallel to this work, Nordtest has elaborated a simplified version of the guide with a *practical approach* to estimating measurement uncertainty in sampling. In connection with this guide, Nordtest will be arranging a course on this particular topic, 12-13 April 2007. The workshop, which will be held in English, will last for two days, and is relevant both for sampling and the assessment of analysis results in general. The lecturers come from the Nordic countries and the UK. For course programme and registration, see:

www.nordicinnovation.net

Program:

Day 1

09:30-10:00	Registration/ coffee
10:00-10:15	Introduction
10:15-10:30	Presentation of NMKL
10:30-11:30	Validation from the accreditation body point of view
11:30-12:00	Basic statistics
12:00-13:00	Lunch
13:00-13:30	Workshop 1
13:30-14:10	Validation, overview and planning
14:10-14:25	Specificity and standard curve
14:25-14:55	Workshop 2
14:55-15:15	Coffee break
15:15-15:45	Precision for quantitative and qualitative methods
15:45-16:45	Workshop 3

Day 2

09:00-09:30	Trueness
09:30-10:30	Workshop 4
10:30-10:50	Coffee
10:50-11:30	Measuring range, limit of detection, ccα, ccβ
11:30-12:00	Workshop 5
12:00-12:45	Lunch
12:45-13:15	Workshop 5 continues
13:15-13:25	Ruggedness
13:25-13:45	Evaluation of results and documentation
13:45-14:00	Coffee
14:00-14:20	Monitoring of methods in use, use of validation data for measurement uncertainty
14:20-14:30	Summing up, questionnaire, closing

Fee: NOK 2500,- including the course and course materials, lunch and coffee both days.

Registration /Deadline: Please register to the office of NMKL Secretary General preferably by e-mail to **nmkl@vetinst.no** or at the Web (**www.nmkl.org/webshop/course)** before **1 FEBRUARY 2007.**