NMKL Newsletter
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Newsletter for the Nordic Committee on Food Analysis

Contents

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The 61st NMKL Annual Meeting was held in Nådendal, Finland, 25 - 28 August 2007

The Finnish National Committee of NMKL had provided excellent surroundings for NMKL's 61st Annual Meeting, which was held at the Nådendal Spa Hotel. NMKL's experts, including microbiologists, chemists and sensory analysts from the 5 Nordic countries, were accommodated on board the Sunborn Princess Yacht – a floating hotel in connection with the Spa Hotel.

The Annual Meeting started on Saturday with performance reports and updates on NMKL's activities, presented by NMKL Chairman Ole Bjørn Jensen and NMKL Secretary General Hilde Skår Norli.

NMKL is connected to the Nordic Council of Ministers through the Department for Foodstuffs in the Council of Ministers for Fisheries and Aquaculture, Agriculture, Food and Forestry (EK-FJLS).

Food Consultant Lene Breum Larsen (photo on the left) brought NMKL up to date on the new structure in EK-FJLS. After this, information was presented from NMKL's cooperating partners. Ulla Edberg from the National Food Administration of Sweden, who is NMKL's representative in the European Standardisation Organisation, CEN, briefed the meeting on the activities of CEN/TC 275. Christina Bäckman from the Finnish Food Safety Authority Evira, gave the NMKL members an update from the International Dairy Federation (IDF).

In line with recent years' tradition, NMKL had invited one of NMKL's referees to give an account of the work of a referee. PhD Hanne Rosenquist from the National Food Institute, Technical University of Denmark, presented the considerable work that has been laid down in connection with the collaborative validation of a qualitative, semi-quantitative and quantitative method for thermotolerant *Campylobacter* in foods (see page 4).

All the topics in the working programme are reviewed at the NMKL Annual Meeting. The work load is great, covering approx. 40 projects (an extract of the working programme is provided on page 2). The discussions are lively in the professionally strong, but relatively informal, sub committees within microbiology, chemistry and sensorics. The Annual Meeting is an important forum for the Nordic experts.

PhD Flemming Hansen from the Danish Meat Research Institute was elected new chairman of the microbiological committee (Sub Committee 2). Prof. PhD. Kåre Julshamn from NIFES, the National Institute of Nutrition and Seafood Research, Norway, is chairman of the chemical sub committee (Sub Committee 3). Steffen Solem from Eurofins The Norwegian Institute for Food and Environmental Analysis acted as chairman of Sub Committee 4, the sensory committee. Besides being the moderator of the committees, the Sub Committee chairmen's tasks include investigating methods and approving collaborative study plans.

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EXTRACT OF NMKL'S WORKING PROGRAMME 2007

MICROBIOLOGY

Method drafts expexted + method drafts for approval:

- Sampling and pre-treatment of foods and animal feedstuffs, for quantitative microbiological examination (Rev. NMKL 91)
- Anaerobic sulphite-reducing bacteria. Determination in foods. (Rev. NMKL 56)
- *Clostridium botulinum* + botulinum toxin (Rev. NMKL 79 + 80)
- Pathogenic *Vibrio* species. Detection and enumeration in foods.(Rev. NMKL 156)
- *Clostridium perfringens* - horizontal method
- Bacterial count on blood agar
- Coagulase-positive staphylococcus/*Staphylococcus aureus* (Rev. NMKL 66)
- Bacteriological examination of fresh and frozen seafood (Rev. NMKL 96)
- Halophilic and osmophilic microbes ('pink' and 'dun'). Determination in salted fish products (Rev. NMKL 171)

Collaborative study report for approval:

- *Yersinia enterocolitica*. Detection in foods.

Approved method for final review:

- *Salmonella.* Detection in foods, faeces and materials from primary animal production using MSRV.

Procedures/ guidelines under elaboration:

- Guidelines for quality assurance (Rev. NMKL Rep. 5)
- Measurement uncertainty for microbiological examinations (Rev. NMKL Proc. 8)

CHEMISTRY

Method drafts expexted + method drafts for approval:

- Methyl mercury. Determination by GC-ICPMS in foods.
- Histamine. Determination by HPLC in fish.
- Tin in foods.
- Ochratoxin A. Determination by HPLC in cereals and cereal products (Rev. NMKL 143).
- Glycoalkaloids. Determination by HPLC in potatoes (Rev. NMKL159).
- Plant sterols and stanols
- Vitamine K. Determination by HPLC in foods.

Methods for collaborative study:

- Acrylamide in coffee (JRC project).
- PAH. Determination in foods.

Approved method for final review:

- Nitrate. Enzymatic determination in dairy products.

Procedures / guidelines under elaboration:

- Evaluation of results derived from the analysis of certified reference materials.
- Procedure for calibration of NIR and IR for analysis of essential elements in foods.
- Guidelines for quality assurance (Rev. NMKL Rep. 8).
- Conversion of the methods for trace elements into criteria (for Codex).
- Recovery. Estimation and expression thereof.
- Traceability in chemical food analysis.

SENSORY

Procedures / guidelines under elaboration:

- Sensorial analysis of fish and shellfish.
- Evaluation and reporting of sensorial data, including estimation/ evaluation of measurement uncertainty.

Course:

- Quality control test of drinking water.

HORIZONTAL TOPICS

Procedures / guidelines under elaboration:

- Evaluation of immunological methods
- Intermediate validation – Peer-verified methods

Ongoing activities :

- NordVal
- Advisory group on statistic
- Nordic expert laboratory network

Courses:

- Requirement specifications for food analyses
- Measurement uncertainty (Budapest in connection with meeting in CCMAS)

NMKL'S PRICES FOR 2007 AND 2008:

- 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

NEW PUBLICATIONS – TECHNICAL REPORTS

NMKL has determined to issue technical reports on relevant topics where NMKL has no method available. These reports have been used as background material within NMKL. The following reports are available on NMKL's home page under Publications:

NMKL Technical Report No. 1, 2007 - Cryptosporidium and Giardia in Drinking Water: Discussion document for selection and evaluation of an NMKL Method

NMKL Technical Report No. 2, 2007 - Arcobacter - an emerging food borne pathogen?

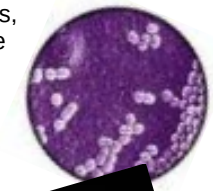
NEW METHOD: **NMKL Method No. 140, 2. Ed. 2007:**
Lactic acid bacteria. Determination in food in association with food spoilage.

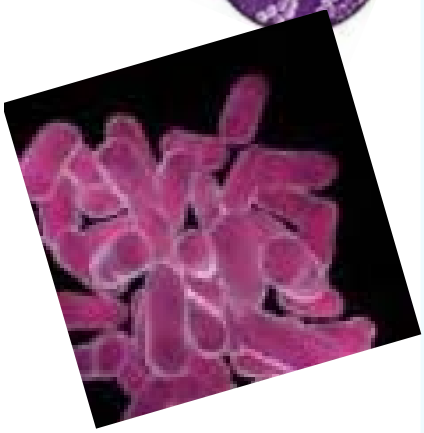
Prof. Johanna Björkroth

EKSPERTS

Prof. Johanna Björkroth from the Department of Food and Environmental Hygiene, Faculty of Veterinary Medicine, Helsinki University, Finland, has revised the method. To provide professional assistance and to assure their countries' interests, the following contact persons have been appointed: Vibeke From Jeppesen, Chr. Hansen A/S and Sven Qvist, Denmark, Margrét Geirsdóttir, Matis, Iceland, Brita Næss and Kari Dommarsnes, Eurofins The Norwegian Institute for Food and Environmental Analysis, Norway and Jörgen Nilsson, Procordia Food AB, Sweden.

The principle of NMKL Method No. 140 is as follows: A homogenised sample and/or dilution is cultured on the surface of a selective medium, MRS-aB. The plates are incubated anaerobically at 25ºC for 5 days. The incubation temperature should not exceed 25ºC, as this is likely to supress the growth of some psychrothrophic species, such as the psychrotrophic leuconostocs, and favour the growth of *Lactobacillus*. The number of LAB in the sample is calculated from the number of colony forming units and the dilution factor.





This method represents a general approach applicable to all types of foods prone to LAB spoilage. However, due to the considerable differences in the optimum growth requirements of different LAB species, this method may not always equally support the growth of all LAB, especially some *Carnobacterium* species that are more sensitive to the combination of pH values below 6.2 ± 0.2 and acetate. On the other hand, LAB which have a more acidophilic nature, such as *Oenococcus oeni,* genera of *Lactobacillus, Leuconostoc, Pediococcus* and *Weissella,* as well as the majority of *Carnobacteria* associated with food spoilage, grow well on MRS-aB medium. When analysing meat samples showing "greening meat", it should be noted that one of the species often associated with this quality fault, *Carnobacterium viridans,* has been reported to grow poorly on MRS medium. Therefore, the use of non-selective media, such as BHI, APT, M5 and CTSI, is recommended parallel with the use of MRS-aB medium when performing species identification.

In cases of acidic, high-salt or alcohol-containing foods, the medium can be supplemented by adding acid, a solute or alcohol, thus mimicking the food to be analysed. However, MRS-aB agar supports the growth of the majority of LAB species, since its pH of 6.2 ± 0.2 is more neutral than the pH of 5.7 of the MRS-S medium recommended in the first edition of this method for the analysis of meat products. Since spoilage LAB grow either at refrigerated or room (20 to 25ºC) temperatures, the incubation temperature of this method has been set accordingly (25 ºC).

This method has not been collaboratively validated.

ABOUT LACTIC ACID BACTERIA (LAB)

Lactic Acid Bacteria are Gram-positive and ferment sugar into lactic acid. This acid production creates tougher life conditions for other bacteria. Lactic acid bacteria are very useful in food production, and are applied as a starter in the production of cheese, yogurt, sour dough bread and smoked sausage etc. They are used as protection cultures in ready-to-eat products, and more and more frequently as a pro-biotic, especially in dairy products. Their ability to inhibit the growth of other bacteria is important in this context.

In other contexts LAB is associated with food spoilage. The packaging of foods in a modified atmosphere, i.e. an atmosphere in which the concentration of CO_2 is increased, inhibits bacterial growth. Generally, CO_2 decelerates the growth of bacteria, mould and fungus, as it affects various enzymatic and biochemical processes in the microorganisms. Hence, it takes longer for the bacteria to start multiplying, and the rate of the reproduction decreases. In other words, it takes longer for the number of bacteria to become so high that the product becomes unfit to eat. CO_2 does not have the same effect on all microorganisms. The growth of lactic acid bacteria are stimulated by CO_2 combined with a low concentration of O_2. Typically, LAB spoilage is encountered in vacuum or modified atmosphere packaged, cold-stored meat and fish products. LAB may also cause quality faults in packaged fresh cut produce and acidified foods, such as herring, salad dressings and pickled vegetables. Typical LAB spoilage alterations include cheesy and acidic off-tastes and off-odours, gas formation and bulging packages, colour changes, such as greening in meat, and slime due to exopolysaccharide formation.

LAB are a heterogeneous group of Gram-positive bacteria sharing certain morphological, metabolical and physiological characteristics. Previously, LAB were considered as "milk-souring organisms", but the "up to date" definition is related to their phylogenetic position, in addition to describing the type of metabolism resulting in one or more typical fermentation end-products. Phylogenetically, LAB belong to the branch of *Firmicutes* with a low G+C content, the so-called clostridial branch. LAB are generally Gram-positive, non-sporing, non-respiring cocci or rods, which produce lactic acid as the major end-product of carbohydrate fermentation. *Carnobacterium, Lactobacillus, Lactococcus, Leuconostoc, Pediococcus,* and *Weissella* are the most common food-spoilage associated genera.

NEW METHOD: NMKL Method No. 119, 3. Ed. 2007: Thermotolerant *CAMPYLOBACTER*. Detection, semi-quantitative and quantitative determination in foods and drinking water.

EXPERTS

The method is elaborated by **PhD Hanne Rosenquist** from the Danish Institute for Food and Veterinary Research (now: National Food Institute, the Technical University of Denmark), Jens Sinding and Niels Ladefoged Nielsen, The Danish Veterinary and Food Administration, and Franklin Georgsson, Matis, Iceland. Further, the following persons contributed: Marja-Liisa Hänninen, Faculty of Veterinary Medicine, Helsinki University, Finland, Kofitsyo S. Cudjoe, National Veterinary Institute, Norway, Linda Bagge, Danish Environmental Protection Agency, and Hans Lindmark, National Food Administration, Sweden.
PhD Hanne Rosenquist (photo on the left) **arranged the collaborative study of the method.**

THE METHOD AND ITS PRINCIPLE

This method describes the qualitative, semi-quantitative and quantitative determination /enumeration of thermotolerant *Campylobacter* i foods and drinking water. In this context, the term "thermotolerant *Campylobacter"* means *Campylobacter jejuni*, *C. coli*, and *C. lari* capable of growing in the media and under the incubation conditions described in the method. Thermotolerant *Campylobacter* are Gram-negative, oxidase-positive, and catalase-positive curved or spiral-shaped rods with a characteristic fast, often rotating, mobility. In older cultures coccoid forms may occur.
The method is divided into 4 sections:

Qualitative detection in foods**:**	Selective enrichment of a specified amount of sample material followed by plating on a solid, selective media. The results given are "detected" or "not detected" in the sample examined.
Semi-quantitative determination in foods:	Selective enrichment of a serial dilution and plating on a solid, selective medium. This technique is applied when an estimate of the level of *Campylobacter* contamination is required, when a low number of *Campylobacter* is expected, or if the level of accompanying flora is relatively high.
Quantitative determination in foods:	Direct plating on a solid, selective medium from a serial dilution of a sample, followed by enumeration of typical colonies. This third part of the method is applied when an estimate of the actual number of *Campylobacter* in the sample is required.
Semi-quantitative determination in water:	Membran filtration, enrichment and plating on a solid, selective medium. This technique is applied when an estimate of the level of *Campylobacter* contamination is required, when a low number of *Campylobacter* is expected, or if the level of accompanying flora is relatively high. The method is an adoption of ISO 17995:2005: Water quality - Detection and enumeration of thermotolerant *Campylobacter* species.

Two solid selective media, Abeyta-Hunt-Bark (AHB) Agar with triphenyltetrazolium chloride and Modified Charcoal Cephoperazone Desoxycholate Agar (mCCDA, are described in the method. The culture media were tested in the collaborative validation study. The study showed that there was no statistical difference in the results when using the two different media, which means that the media are interchangeable. In the method for drinking water, the enrichment was carried out in Bolton and Preston broth respectively, and the few results obtained indicate that the Bolton broth is better suited for the analysis.

RESULTS FROM THE COLLABORATIVE VALIDATION STUDY

The method is validated in a collaborative validation study organised by the Danish Institute for Food and Veterinary Research (now: National Food Institute, DTU), in November 2005. A total of 14 laboratories from Belgium, Denmark, Finland, Iceland, the Netherlands, Norway and Sweden participated in the study. The collaborative study included the analysis of raw, minced chicken meat, fresh cut lettuce and pasteurised milk, as well as drinking water. The matrices were inoculated with different levels of one strain of *C. coli* and one strain of *C. jejuni*. The participating laboratories inoculated the matrices according to a defined procedure and analysed the samples immediately. The study comprised 36 food samples and eight samples of drinking water.

Qualitative method:
No. of labs: 14
Matrix: Raw, minced chicken meat, fresh cut lettuce and pasteurised milk,
Levels: Blind, Low (0.6-1.4 cfu/g (ml)) High (23-60 cfu/g (ml))
Sensitivity: 54-100% for low level
83-100% for high level
Specificity: 97.9%.

Semi-quantitative method:
No. of labs:14
Matrix: Raw, minced chicken meat and pasteurised milk.
Levels: Blind, Low (~1 cfu/g),
Medium (~40 cfu/g)
High (~ 800 cfu/g)
Average share of results (in %) obtained at expected levels (low, medium, high): for chicken: 53%, for milk: 39%

ABOUT *CAMPYLOBACTER*

Campylobacter is considered to be one of the most common causes of human, bacterial diarrhoea in the world today. Over the last few years, there has been a marked increase in reported cases of campylobacteriosis in humans.

Symptoms such as diarrhoea, cramps, stomach pains and fever occur within 2-5 days after being exposed to a pathogen *Campylobacter* infection, and typically lasts 7-10 days. Serious complications may occur.

Campylobacteriosis is usually caused by *C. jejuni,* a spiral-shaped bacteria normally found in cattle, pigs and birds, for whom it is not pathogenic. In addition, illness can be caused by *C. coli* (also found in cattle, pigs and birds), *C.upsaliensis* (found in cats and dogs), and *C.lari* (especially common in seabirds).

Unpasteurised milk, untreated drinking water and poultry are known sources of infection. The infective dose (the smallest amount of the bacteria required to cause illness) is low for *Campylobacter.*

A number of measures have been implemented in order to reduce the danger of infection, including improving drinking water supplies and developing Nordic action plans to reduce the danger of infection through poultry.

Quantitative method:
No. of labs: 14
Matrix: Raw, minced chicken meat and pasteurised milk.
Levels: Blind, Low (800 cfu/g)
Medium (4000 cfu/g *C. jejuni* 8700 cfu/g for *C.coli*)
High (7700 cfu/g *C. jejuni* 74000 cfu/g for *C.coli*)
Limit of quantification:
~100 cfu/g chicken
~800 cfu/g milk
Precision: Relative standard deviation for low and med. levels:
8-22% for chicken
14-20% for milk
Relative standard deviation for high levels:
10-25% for chicken
20-30% for milk

Semi-quantitative method for drinking water:
No. of labs: 3
Matrix: 8 samples of drinking water
Levels: Blind, Low(~ 1 cfu/1000 ml)
Medium (~ 10 cfu/1000 ml)
High(~ 100 cfu/1000 ml)
Average share of results (in %) obtained at expected levels (low, medium, high): with Bolton: 78%, with Preston: 33%

PARTICIPANTS IN THE COLLABORATIVE STUDY
The study was conducted with funding from EK-Livs. NMKL would like to thank the following laboratories for their participation:

- National Food Administration, Uppsala, Sweden
- National Veterinary Institute, Oslo, Norway
- Matis, Reykjavik, Iceland
- City of Helsinki Environment Centre, Finland
- Evira, Finland
- Food and Environmental Research Laboratory, Oulu, Finland
- Fødevareregion Nordjylland Aalborg SV, Denmark
- Fødevareregion Århus, Lystrup, Denmark
- Fødevareregion Esbjerg, Esbjerg Ø, Denmark
- Danish Meat, Denmark
- Danish Institute for Food and Veterinary Research, Søborg, Denmark
- Eurofins Denmark A/S, Randers, Denmark
- Laboratory of Food Microbiology and Food Preservation, Faculty of Bioscience Engineering, University of Gent, Belgium
- Food and Consumer Product Safety Authority, Zutphen, The Netherlands

NordVal Certificates

Raisio Diagnostics AB has received a renewal of the NordVal certifiate for TRANSIA™ PLATE *Salmonella* Gold and TRANSIA™ PLATE *Listeria*

TRANSIA™ PLATE *Salmonella* Gold and TRANSIA™ PLATE *Listeria* are validated by AFNOR (the French standardisation organisation) according to ISO 16140. The results were satisfactory. Both TRANSIA™ PLATE *Salmonella* Gold and TRANSIA™ PLATE *Listeria* are produced by Raisio Diagnostics SAS, France.

TRANSIA™ PLATE *Salmonella* Gold NordVal Certificate No. 1

TRANSIA™ PLATE *Salmonella* Gold was validated according to ISO 6579:2002: Horizontal method for the detection of *Salmonella spp*. TRANSIA™ PLATE *Salmonella* Gold has the following features:

- Short, flexible enrichment procedure
- No M-broth required
- No second selective enrichment broth
- Maximized sensitivity through LPS detection
- No cross-reactions with other enterobacteria
- Ready-to-use reagents
- Single and multiple testing

The limit of detection is 0.3 -1.4 cfu/25g, the specificity rate approx. 100% and the sensitivity rate >95%. The method is applicable to food, feed and environmental samples.

TRANSIA™ PLATE *Listeria* NordVal Certificate No. 2

TRANSIA™ PLATE *Listeria* was validated according to ISO 11290-1:1996: Horizontal method for the detection and enumeration of *Listeria monocytogenes* -- Part 1: Detection method. The limit of detection was found to be 4-7 cfu/25g, the specificity rate approx. 100% and the sensitivity rate >95%. The method is applicable to food samples.

Features:

- Ready-to-use reagents
- Long shelf-life
- High-specific antibodies
- Flexible format with divisible strips
- Simple 3-step ELISA

As the current validation of the TRANSIA™ PLATE *Listeria* has not been compared to the newest version of the reference method, the certificate is issued for 1 year until the new validation of ALOA is ready.

Bio-Rad RAPID' E.coli 2 Agar - NordVal Certificate No. 20

RAPID' *E.coli* 2 Agar for direct enumeration of *Escherichia coli* and other coliforms without further confirmation.

RAPID' *E.coli* 2 Agar is a chromogenic medium for the detection and enumeration of *E.coli* and other coliform bacteria in food within 24 hours. The principle of the RAPID' *E.coli* 2 medium relies on simultaneous detection of two enzymatic activities; Beta-D-Glucuronidase (GLUC) and Beta-DGalactosidase (GAL). The medium contains two chromogenic substrates:

- one substrate is specific to Beta-DGalactosidase GAL, and results in a blue-green coloration of colonies positive for this enzyme
- one substrate is specific to Beta-D-Glucuronidase (GLUC), and results in violet coloration of colonies positive for this enzyme.

All coliforms other than *E.coli* (GAL+/GLUC-), form blue to green colonies, whereas *E.coli* (GAL+/GLUC+), form violet colonies.

A total count of coliforms can be obtained by adding up the number of blue colonies and the number of violet colonies. Differentiation of coliforms, specifically *E. coli,* is carried out by observing a simple colour change reaction. The method is validated at 37°C and 44°C. RAPID' *E.coli* 2 is available in two formats, dehydrated or ready-to-use bottled media.

NordVal has reviewed the results of the validation carried out by AFNOR according to ISO 16140. The results show that the method's performance is equivalent to that of the reference method, and is in compliance with the manufacturer's specifications. The reference methods were: ISO 4832:1991 for the enumeration of coliforms in foods at 37°C, and ISO 16649-2: 2001 for the enumeration of E.coli in foods at 37°C and 44 °C. RAPID' E.coli 2 Agar can be used without further confirmation of characteristic colonies.

RAPID' E. coli 2 Agar, which has got a renewal of its NordVal approval, is produced by Bio-Rad Laboratories SA, France.

Salmonella Real-Time PCR Method NordVal Certificate No. 31

Lantmännen Danpo A/S, Denmark, applied for a NordVal certificate for a rapid *Salmonella* detection method based on a Real-Time PCR assay. The method has been developed by the National Food Institute of the Technical University of Denmark, as a **14 hour method** for the detection of *Salmonella* in raw meat.

This is a non-patented method. The method is based on a shortened pre-enrichment in buffered peptone water for 10-14 hours, and detection by a novel Real-Time PCR assay. The assay is a 5' nuclease (TaqMan) Real-Time PCR developed for the specific detection of *Salmonella* spp. in raw meat**.** The assay uses specific primers and a probe target within the *ttrRSBCA* locus. The limit of detection is 1-10 cfu/25g in raw meat. The PCR method is compared with NMKL Method No. 71, 5th Ed, 1999: "*Salmonella*. Detection in foods". The study shows that the results of the PCR method was not significantly different from those of the reference method, and that the acceptance criteria of NordVal are fulfilled.

The method is based on the following publications:
Josefsen MH, Krause M, Hansen F, Hoorfar J. 2007. Optimization of a 12-hour TaqMan PCR-based method for detection of Salmonella bacteria in meat. Appl Environ Microbiol. 2007 May; 73(9):3040-8.

Both the comparative study and the collaborative validation are described in the following manuscript (not yet submitted): Charlotta Löfström, Michael Krause, Mathilde H. Josefsen, Jeffrey Hoorfar. Comparative and collaborative validation of a 14-16 hours TaqMan PCR-based method for detection of Salmonella in meat (Manuscript).

How to obtain a NordVal Certificate

- NordVal nominates a technical committee (of experts) and an expert laboratory. They elaborate a test protocol in accordance with the NordVal protocol. Consultation with the applicant is appropriate on extent of work, supply of test materials, choice of reference method, etc.)
- NordVal considers the test protocol for approval.
- The expert laboratory carries out a method comparison study in which the alternative method is compared to a reference method using several materials and levels. Then the collaborative study of the alternative method (organised by an expert laboratory), is carried out.
- The technical committee reviews the reports of the studies, and forwards its conclusions and advice to NordVal.
- NordVal informs the applicant of the results, and issues the certificate if the alternative method has proved to be satisfactory.
- NordVal announces the approval through NMKL's information channels (the NMKL Newsletter and their website), and forwards the information to the National Food Administrations in the Nordic countries.
- Alternative methods are reviewed every 2 years.

The following method <u>no longer</u> has a NordVal approval:
Vidas *Salmonella* ICS, Biomerieux. I. e. Biomeriuex can no longer market its product as certified by NordVal.

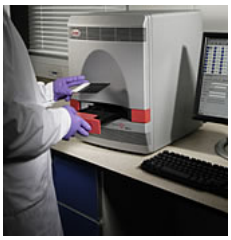
All members of NordVal, i.e. appointed members of the steering group and members of the technical committees, have to be independent and cannot have special interest in the production/ distribution of test-kits, reagents or instruments that may influence their independency. The members must have the required competence and the necessary time at their disposal. The steering group of NordVal is chaired by chairman Sven Qvist, Denmark.

BAX *Salmonella* PCR (BAX Classic and BAX Q7)
BAX System with Automated Detection PCR Assay for Screening Salmonella – NordVal Certificate No. 31

OXOID A/S Thermo Fisher Scientific, Denmark, has renewed its NordVal certificate on the BAX System with Automated Detection PCR Assay for Screening *Salmonella* in food, feed and environmental samples. The method is validated according to ISO 6579:2002. Bax *Salmonella* PCR is also an AOAC method (AOAC 2003.09). NordVal has reviewed the results from the validations which were performed by AFNOR according to ISO 16140, and found that *Salmonella* PCR is in accordance with the product specifications, and its performance is equivalent to that of the reference method. The Bax system is applicable to the analysis of *Salmonella* in foods, feeds and environmental samples.

After standard enrichment, samples are lysed to break open the cell walls and release DNA. This lysate is then used to hydrate the PCR tablets. Processing in the automated thermo-cycler takes less than 4 hours for a full rack of 96 tests. Electronic results appear as positive/negative icons on-screen, and the data can be easily stored, shared or printed.
The limit of detection is 2-7 cfu/25 g or ml.

The pictures are copied from www.oxoid.com



3M Deutschland GmbH, has received renewed NordVal certifificates on the following products:

- **3M™Petrifilm™ Aerobic Count Plate**
- **3M™Petrifilm™ Coliform Count Plate**
- **3M™Petrifilm™ E.coli / Coliform Count Plate**
- **3M™Petrifilm™ Staph Express Count System**
- **3M™Petrifilm™ Yeast and Mould Count Plate**

3M™ Petrifilm™ is produced bv 3M Health Care, Microbiology Products, St. Paul, Minnesota, USA.

3M Petrifilm™ are small, flat, sample-ready plates that enable food processors to perform on-site microbial testing easily and efficiently. Their innovative design features films coated with nutrients and a gelling agent. The plates may be used to test raw materials, in-process products, finished products, and the plant environment. Petrifilm Plates may also be used as part of a plant's Hazard Analysis and Critical Control Point (HACCP) program.

The picture is copied from www.3M.com

3M™Petrifilm™ Aerobic Count Plate - NordVal Certificate No. 12

3M™Petrifilm™ Aerobic Count Plate was tested against ISO 4833, 2003: Horizontal method for the enumeration of microorganisms – Colony count technique at 30ºC. There was no statistically significant difference between the results of the Petrifilm method and those of the reference method, for a total of 219 products, which shows that the method is horizontal. The lowest validated level was 1.5 log CFU/g. The validation studies were conducted by AFNOR.

3M™Petrifilm™ Coliform Count Plate NordVal Certificate No. 13

3M™ Petrifilm™ Coliform Count Plate was tested against ISO 4831 and ISO 4832, which describe horizontal methods for the detection and enumeration of coliforms by MPN and plating techniques, respectively. The comparisons were carried out by AFNOR with satisfactory results.

E.coli / Coliform Count Plate
NordVal Certificate No. 14

3M™Petrifilm™ E.coli/Coliform Count Plate was tested against ISO 16649- 2, 2001: Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli -- Part 2: Colony-count technique at 44 degrees C using 5-bromo-4-chloro-3-indolyl beta-D-glucuronide.

The comparison of the methods was conducted by AFNOR. 118 results from various foodstuffs showed that there was no statistical difference between the results obtained with Petrifilm and those obtained using the reference method.

3M™Petrifilm™ Staph Express Count System
NordVal Certificate No. 19

3M™Petrifilm™ Staph Express Count System was tested against ISO 6881-1, 1999: Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species).

The method was tested on meat, dairy products, sea food, vegetables and other products. There was no statistical difference between the results obtained with Petrifilm and those obtained using the reference method.

Yeast and Mould Count Plate
NordVal Certificate No. 16

3M™Petrifilm™ Yeast and Mold Count Plate was tested against BAM Bacteriology & Applied Microbiology Division (BAM) 18, Chapt. 8th Ed., 2001: Enumeration of Yeasts and Moulds in Food--Dilution Plating Technique.

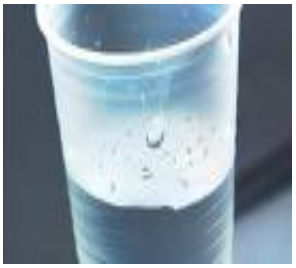
The results of the comparison and the collaborative study on various foodstuffs showed that there was no statistical difference between the results obtained with Petrifilm and those obtained using the reference method.

Pure and tasty drinking water??

Pure, fresh and tasty drinking water, most people in the Nordic countries take this for granted. However, the quality of this water has to be checked regularly, both chemically and microbiologically – as well as sensorially. Sensory analyses are essential in this context, because they are highly relevant to the usage of drinking water. However, sensory tests are performed differently at various testing locations. Therefore, NMKL has developed a simple, fast and practical method for **sensory quality control of drinking water**. The method is one of the very first sensory methods to be validated collaboratively, and provides objective and repeatable results when used correctly. NMKL is now arranging **courses** in this method.

Target group: Personnel working within water supply and in other locations where there is a need for a fast, simple and objective sensorial control of drinking water.

Scope: The courses will include sensorial theory of relevance for the target group, a thorough description of the method and a number of practical assessments of drinking water. The courses will be based on NMKL Method No. 183, 2005: Sensory quality control test for drinking water, and NMKL Procedure No. 11, 2002: Procedure for sensory analysis of drinking water / Juomaveden aistinvarainen arviointi (Finnish).



Date and place:
Norway: 28 November 2007, Eurofins The Norwegian Institute for Food and Environmental Analysis, Oslo.
Sweden: 31 January 2008, Lackarbäcks vattenverk, Göteborg.
Denmark: not fixed yet.
Finland: 7 February 2008, Evira, Helsinki.
Iceland: 12 February 2008, Matís, Reykjavík.

Language and lecturers:
In Norway, Sweden and Denmark the courses will be held in Norwegian by Steffen Solem from Eurofins The Norwegian Institute for Food and Environmental Analysis.
In Finland, the course will be held in Finnish by Leena Lilleberg from Evira.
In Iceland, the course will be held in English by Steffen Solem from Eurofins The Norwegian Institute for Food and Environmental Analysis.

Program:
0900 Introduction
0915 Lecture: Sensorics as an analytical method
1000 Smell-test of drinking water, Part 1
1030 Lecture: Factors of importance for practical performance of sensory analysis (incl. some quality assurance)
1115 Smell-test of drinking water, Part 2
1145 Discussion of smell-test
1200 Lunch
1230 Detailed discussion of NMKL No. 183
1400 Practical tasting of water
1600 Closure

Course Fee: NOK 2500,- (incl. lunch and materials)

Registration Deadline:
5 November 2007 for the course in Norway
10 January 2008 for courses in Sweden
15 January 2008 for courses in Finland and Iceland

Registration to:
NMKL - e-mail: **nmkl@vetinst.no**
Note! Limited number of participants.