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Newsletter for
The Nordic Committee on Food Analysis

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NMKL welcomes any input or comments on the NMKL newsletter and on NMKL's working programme.

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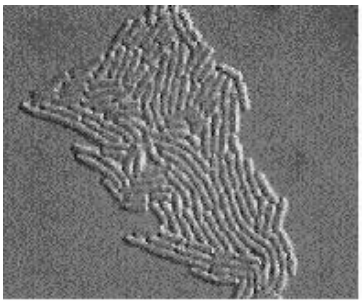
New edition of NMKL method no 164:
Escherichia coli O157.
Detection in food and feeding stuffs.

NMKL method No 164, 1999 was elaborated by Søren Aabo and Bodil Jacobsen, at the Danish Veterinary and Food Administration, Copenhagen. The method is now collaboratively studied. Christina Normark, National Food Administration, Sweden arranged the study and the results thereof are included in this 2nd edition of the method.

The detection of *E. coli* O157 includes a selective enrichment followed by immunomagnetic separation of *E. coli* O157 and plating of the separated culture on two different selective solid media. The matrices included in the study were minced meat, raw milk and lettuce. The samples were inoculated with two levels (high and low) of three non-pathogenic strains of *E. coli* O157. Fourteen laboratories participated in the study. The results of the study show that the method is acceptable for the detection of *E.coli* O157, as long as the enrichment broth is incubated for both 6-8 hours and 18-24 hours. However, one should be aware that there is a risk of reporting false positive results, if presumptive results are not confirmed.



New edition of NMKL method No 98:
Mould and yeast. Determination in food and feed.

Emma Frändberg, revised this method when she was employed at the National Food Administration, Sweden.

The main changes in this new edition (4th Ed., 2005) compared with the 1995 version, is the recommendation of the use of different culture media for determination of mould and yeast in different foodstuffs. Further a new culture media is included for determination of yeast only and feedstuffs are included as matrix in the method.

The content of mould and yeast are determined by surface inoculation of appropriate dilution series on DRBC (dichloran rose bengal agar), DG18 (dichloran glycerol agar) or OGYE (oxytetracykline glucose yeast extract agar) dependent on which matrix that are analysed. The mould flora can be examined by direct plating of particles (e.g. kernels or grains) on the culture medium. After incubation at 22-25.0 ± 1.0 °C for 5-7 days colonies with a characteristic appearance are counted and the cfu calculated. Mould and yeast are counted separately.

The methods are forwarded the NMKL subscribers; however, the methods can also be purchased on NMKL's web page.

NMKL – internationally recognized?

Now and then, users of NMKL methods/stakeholders ask which international methods/standards particular NMKL methods can be referred to, as they might need to make references to internationally recognized methods. NMKL is an international organisation and is internationally recognized among others by Codex Alimentarius.

The Codex Alimentarius Commission was established in 1963 by FAO and WHO to develop food standards, guidelines and related texts. The main purposes are protecting health of the consumers, ensuring fair trade practices in the food trade and promoting coordination of all food standards work undertaken by international governmental and non-governmental organizations. Codex recommends several NMKL methods in Codex standards. Further some of the NMKL procedures, e.g. the procedures on Sampling, Measurement of Uncertainty, Evaluation of Results Derived from the Analysis of Certified Reference Materials and Method Validation, are referred to in Codex documents. NMKL is acknowledged among others because NMKL validates the methods according to international accepted rules. Through NMKL's active involvement in Codex, NMKL has interests from more than 40 countries outside the Nordic.

There are many committees in Codex. NMKL participates in Codex Committee on Methods of Analysis and Sampling (CCMAS). This committee defines criteria appropriate for Codex methods of analysis and sampling, recommends quality assurance systems for laboratories and which methods that are to be used (reference methods). It is further a coordination organ for Codex with international organisations. Hungary hosts the secretariat for this committee. The previous meeting was held in Budapest in the beginning of April where about 140 delegates from 50 nations and 15 international organisations, NMKL included, participated. In addition to approving methods, the following were discussed:

- **Analytical Terminology**: IAM (Interagency Meeting, see page 3) has listed definitions used by the member organisations on different terms used within method validation and quality assurance. A project group will suggest which definitions to be recommended for Codex. USA leads the project.
- **Guide on Evaluation of Acceptable Analytical Methods:** The document defines and describes how to estimate accuracy, field of application, detection and determination limit, linearity, precision, recovery, selectivity and sensitivity. New Zealand leads the work.
- **Guide in Connection with Dispute Situations:** In this paper a procedure describes how to act when laboratories in the export and import country do not obtain comparable results. France leads the work.
- **Conversion of Heavy Metal Methods into Method Criteria:** NMKL has studied the heavy metal analysis recommended by Codex and listed the methods' characteristics such as applicability, detection and determination levels, the repeatability and reproducibility as well as the HorRat value. From these NMKL put forward method criteria recommendations. The committee agreed to continue the work and elaborate some more detailed instructions. As NMKL, an international organisation, cannot lead a project, Sweden will be in charge of this document.
- **Method Criteria for the Detection and Identification of Foodstuffs Derived from Biotechnology:** The document describes among others how to perform method validation for analysis of GM foods. Germany and United Kingdom lead the work.
- **Methods for Determination of Dioxins and PCBs:** There are no collaboratively validated methods for determination of dioxins and PCB in foods. References to some methods were given at the meeting. Germany agreed to convert these methods into criteria.

Information about Codex Alimentarius, Codex standards and publications as well as reports from meetings and agendas for future ones is available at **www.codexalimentarius.net.**

The following procedure is at last available in English:

- NMKL Procedure No 14: SENSVAL: Guidelines for Internal Control in Sensory Analysis Laboratories.

The following procedure will be available in August:

- NMKL Procedure No 15: Temperature Control in Microbiological Laboratories.

NMKL regrets the delay.

InterAgency Meeting (IAM)

The IAM is a forum for international organisations working in the food analysis sector and the associated quality assurance measures. The aim of the IAM is to promote co-operation and harmonisation between the member organisations and to support the needs of the Codex Alimentarius Commission. The IAM provides a unique opportunity for the organisations to meet, discuss and exchange information. The meetings are held in connection with the CCMAS meetings at the Hungarian Standardisations Institute in Budapest. AOCS (American Oil Chemists' Society), has the secretariat of the IAM. At the previous meeting in April, the following organisations were present:

AOAC International,
AOCS (American Oil Chemists' Society),
AAFCO (Association of American Feed Control Officials),
BIPM (Bureau International des Poids et Mesures),
CEN (The European standardisation organisation),
CIPAC (Collaborative International Pesticides Analytical Council),
Codex,
ICC (The International Association for Cereal Science and Technology),
ICUMSA (International Commission for Uniform Methods of Sugar Analysis),
IDF (International Dairy Federation),
IFU (The International Federation of Fruit Juice Producers)
ISO (International Organization for Standardization)
IUPAC (International Union of Pure and Applied Chemistry),
NMKL
OIV (The International Organisation of Vine and Wine)

AOCS has established a homepage for IAM at: **www.aocs.org/meetings/iam.**

In addition to the co-operation with the organisations in the IAM, NMKL has individual liaisons with AOAC International, CEN, IDF and ISO. The aims of the agreements are to prevent double work and exchange technical information.

NMKL and ISO's committee on microbiological analysis in foods, ISO/TC 34 SC9, have just recently signed a cooperation agreement.

The agreement makes it possible for NMKL to validate ISO methods collaboratively and publish the results of the study along with the method text. ISO will get the results of the study and might also publish these in their standards. NMKL consider it as vital that methods/standards are collaboratively validated, which is not the case for many ISO standards. Validating methods require a lot of resources and hence it is important to avoid double work. Furthermore it is important that the Nordic countries exert influence internationally through the work of NMKL. The upcoming meeting in ISO/TC 34 SC 9 is in Poland, June 14-17. The chair of the NMKL microbiological committee, Dr. Lis Nielsen, Denmark will represent NMKL.

NMKL has also a liaison with the European standardisation organisation for food analysis, CEN/TC 275. In each of the working groups in CEN/TC 275 NMKL has a representative.

The following Nordic experts are appointed as NMKL representatives :

TC 275: Food analysis – horizontal methods: Ulla Edberg, (SE)

- WG 1 Sulphites: Ulla Edberg, (SE)
- WG 2 Sweeteners: Niels Fabricius (DK)
- WG 3 Pesticides and PCB in fatty foods, Marie Aune (SE)
- WG 4 Pesticides in non-fatty foods: Mette Erecius Poulsen (DK)
- WG 5 Biotoxins: Kevin Jørgensen (DK)
- WG 6 Microbial contamninants:
- WG 7 Nitrate og nitrite: Leonardo Merino, (SE)
- WG 8 Irradiated foodstuffs: Torben Leth, DK)
- WG 9 Vitamins: Hanna Sara Strandler (SE)
- WG 10 Heavy metals: Kåre Julshamn (N)
- WG 11 Genetically modified food: Arne Holst Jensen (N)
- WG 12 Food allergens: Ingrid Malmheden Yman (SE)

CEN does not arrange collaborative studies, but it is required that the methods elaborated as CEN standards are collaboratively validated. Hence NMKL methods are welcomed in CEN. The next meeting in the horizontal committee of CEN/TC 275 is at the German Standardisation Institute (DIN) in June. Dr Ulla Edberg, National Food Administration, Sweden will also be representing NMKL.

NordVal is a Nordic system for validation of alternative microbiological methods (test-kits).

The national food administration in each of the Nordic countries have appointed a member of the steering group, which consists of the following experts:

Denmark	Sven Qvist (chairman), Danish Institute for Food and Veterinary Research, DFVF
Finland	Taina Niskanen, National Food Administration
Iceland	Franklín Georgsson, Environmental and Food Agency of Iceland
Norway	Kjell Hauge, Norwegian Food Safety Authority
Sweden	Per Norberg, National Food Administration

Sven Qvist (e-mail: sq@dfvf.dk)**,** is the chairman, and DFVF host the secretariat.

Sven Qvist informs that NordVal has during the spring worked on validation of new methods and renewal of approvals for validated ones. The latter has included 5 Petrifilm-methods from Laboratories 3M Santé, VIDAS SLM, VIDAS LIS and VIDAS LMO2 from BioMerieux, Salmonella Optima from Bioline and Hygicult TPC from Orion Diagnostica.

The following 2 new methods are validated:

- iQ-Check Salmonella Kit from Bio-Rad, which is a real-time PCR Salmonella method for screening for Salmonella in foods, feeds and environmetal samples.

- Campylobacter real-time PCR, which is a real-time PCR Campylobacter method for screening for thermotolerante Campylobacter in raw chicken meat and faeces on cloacae swabs. This method is elaborated by DFVF.

NMKL courses/seminars/workshops:

Courses in Sampling: The answers to the questions from the home exam in connection with the courses in Sampling are available at the NMKLs homepage under courses.

EK-Livs will in 2005 give funding to the following NMKL activities:

Seminar: Will the change in the laboratory structure in the Nordic give consequences for the food safety?

The aim of the seminar is to discuss whether the extensive reductions in the number of food laboratories influence the food control authorities in maintaining the food control according to the requirements given in directive and instructions.

Workshop Bromic flame retardants.

NMKL wishes to arrange a workshop where Nordic experts within chemistry and toxicology meet and through discussion identify the products, and from a toxicological point of view pick out the poly bromic flame retardants of interests. Theoretically there are 209 different congeners in each group. The aim is that the invention results in suggestions of analytical methods that can be used in the food control as well as for more scientific purposes.

The secretariat of NMKL still gets questions regarding the petrifilm methods for determination of aerobic microorganisms, coliform bacteria and E.coli – the withdrawn NMKL methods No 146 and 147-

These methods are no longer in NMKL's collection, not because NMKL finds them unreliable or poor. They are withdrawn because of NMKL's policy of not including test kits in the collection as NordVal validates these.

Procedure for a NordVal approval

NordVal receive an application on validation of a test-kit and appoint experts in a technical committee (TC)

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TC reviews the application. Acceptance: +/-

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TC and an appointed expert laboratory elaborate a test plan. Consultation with applicant at this stage is appropriate (supply of test materials, choice of reference method, choice of test strains, economy etc.)

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NordVal approves the plan.

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The method is validated according to NordVal's procedure.

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The expert lab. elaborate the report.

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The report is reviewed by TC.

↓

TC advises NordVal on approval.

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NordVal forward the conclusion to the applicant with a copy to the Nordic Food Administrations.