

Newsletter for The Nordic Committee on Food Analysis

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New NMKL Methods

No. 86, 4th Ed., 2006: Aerobic microorganisms. Determination in foods at 30 °C, 20 °C or 6.5 °C.

The method is suitable for determining the number of viable aerobic microorganisms in all kinds of foods.

The aerobic plate count is determined by preparing a dilution series of the sample material according to general microbiological principles, followed by pour-plating into an agar medium in Petri dishes.

Incubate sample(s) under aerobic conditions at either 30 °C for 3 days, 20 °C for 3 days or 6.5 °C for 10 days.

The number of viable aerobic microorganisms per millilitre or gram of sample is calculated from the number of colonies counted on selected plates.

Aerobic microorganisms are defined in the method as microorganisms growing under aerobic conditions when the test is carried out according to the method described. Psychrotrophic microorganisms are defined as aerobic microorganisms capable of relatively rapid growth at temperatures between 0 and 10 °C. Psychrotrophic microorganisms usually have considerable enzymatic activity.

Anne Grændsen (now working at the Norwegian Accreditation), revised the method while employed at the Norwegian Institute for Food and Environmental Analysis. Furthermore, the following experts have been contact persons: Britt Aase, Water and Wastewater, Municipality of Bærum (NO), Flemming Hansen, Danish Meat Association (DK), Anna-Maija Taimisto, Valio AB (FI), Krisitin Halldórsdóttir, University of Iceland (IS) and Christer Wiberg, National Food Administration (SE).

This NMKL Method replaces the following NMKL Methods:

- No. 86, 3rd Ed., 1999: Aerobic microorganisms. Determination in foods.
- No. 27, 3rd Ed., 1994: Aerobic microorganisms plate count. Determination by the plate count method at 30°C in milk, cream and ice cream.

These methods are withdrawn from the NMKL Method Collection and should no longer be referred to as NMKL Methods.



New NMKL Methods

No. 107, 2nd Ed., 2006: Titratable acidity. Determination in milk and cream.

This method specifies a routine method for determination of the titratable acidity in all types of milk and cream.

The titratable acidity of milk and cream is defined as the quantity of 0.1 M sodium hydroxide required for titration of 100 ml of sample to the colour change point of phenolphthalein, in accordance with the method described. The titratable acidity can also be stated on non-fat basis of the sample. The sample is titrated with a 0.1 M standard solution of sodium hydroxide using phenolphthalein as indicator.

The amount of sodium hydroxide is determined by the natural buffer substances of the sample, together with developed or added acid/alkali.

The changes from the previous version, the 1984 edition, consist of an update of the references of the method. Torben Leth, Danish Institute for Food and Veterinary Research carried out the revision.



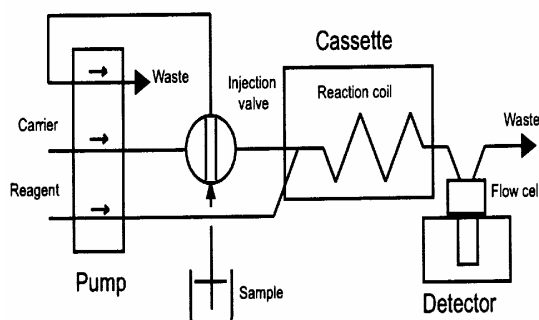
No. 100, 2nd Ed., 2006: Nitrite and nitrate. Determination in foods, brines and salt mixtures.

This method is applicable to quantitative determinations of nitrate and nitrite in various foods, brines and salt mixtures. The method has been single laboratory validated on products of fish, milk and vegetables, and on aqueous solutions of nitrite and nitrate in the form of brines. The method could also be applicable to other products than those included in the validation.

The samples are extracted with hot water. Any present proteins are precipitated and then filtered. The filtrate is injected in the FIA system where nitrite and nitrate, the latter after reduction to nitrite on a Cd column, produces an azo-dye with sulphanilamide and N-(1-naphthyl)-ethylen-diammonium chloride. The azo-dye is determined spectrophotometrically at 540 nm.

The determination of nitrate requires that a determination of nitrite is carried out simultaneously on the same sample. The nitrate content is determined based on the difference between the sum of nitrite- and nitrate-N, and nitrite-N.

The FIA system



Udo Jensen, Danish Veterinary and Food Administration, Region East, has elaborated this method for NMKL. The following contact persons were appointed for assisting him in his work: Jan Rud Andersen, Danish Meat Association, Torben Leth, Danish Institute for Food and Veterinary Research, Baldur Jón Vigfússon, Technological Institute of Iceland, Karl Olav Gjerstad, Norwegian Food Safety Authority and Leonardo Merino, National Food Administration, Sweden.

All the NMKL Methods are made available on the Internet

To access the NMKL methods on the Internet, sign up for an online method subscription. A complete and updated collection of methods will then be available to you at all times. The General Secretariat of NMKL is responsible for keeping the collection up-to-date, and for notifying subscribers when new methods are published. The methods are available as PDF files. User name and password are requested for login.

Prices for online method collection/continuous updates for 1-3 users:
For existing subscribers: NOK 1500
For new subscribers: NOK 2500
The password will be forwarded when payment has been received.

New NMKL Procedure - No. 17, 2006:

Guidelines for requirement specifications for food analyses

- Checklist for considerations to be made in connection with tendering procedures.

It is important to make requirements concerning sample handling, transport, analyses etc. to assure good quality and good documentation of analytical work. The intention of this procedure is to list requirements to be considered, however, competence in the specific laboratory field is still necessary to select the most suitable of these requirements for the specific task. The procedure includes possible requirements to be

specified in chemical, microbiological and sensory analyses. Which of the requirements that are most important in each case, will depend on the type of sample, analyses to be performed, time schedule, legislations etc. These guidelines do not include details of general administrative rules related to the publication of tender notices and prequalification of laboratories, but it gives an idea of the procedure to be followed.

The procedure focuses on requirements to be considered for inclusion in the specification connected to the following topics:

- Sampling/sampling design
- Transport
- Receipt and registration of samples at the laboratory
- Sampling preparation and methods of analyses
- Reporting
- Quality assurance

The procedure also includes some consideration regarding the economic aspects to be considered when drawing up the requirements and when selecting possible contracting laboratories. It is important to establish who will be responsible for the costs in order to avoid economic surprises during the project. The procedure also makes some comments on criteria for the prequalification of laboratories, as well as, criteria for evaluating the offers from potential contracting laboratories.

EK-Livs, NMKL and the project members' institutions have financed this project. The areas of skills of the project members cover chemistry, microbiology, sensory analyses and accreditation. The project group consisted of members from all the Nordic countries:

Denmark: Lisbeth Lund (The Danish Accreditation and Metrology Fund), Sven Erik Sørensen (Steins Laboratory)

Finland: Maija Hatakka (National Food Agency)

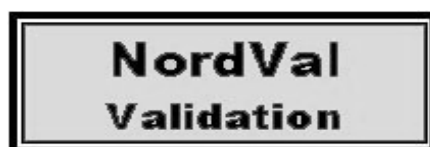
Iceland: Franklin Georgsson (Environment and Food Agency)

Norway: Urd Bente Andersen (then employed at the Norwegian Institute for Food and Environmental Analysis), Astrid Nordbotten (National Food Safety Authority)

Sweden: Håkan Johnsson (National Food Administration)

Astrid Nordbotten was the leader of this project.

The procedure (English version) will soon be available from the NMKL General Secretariat.



Changes in the organisation of NordVal

Dr. Sven Qvist, Chairman of NordVal since January 2000 will retire on 1 July 2006.

Dr. Qvist has been a key person in the establishment of NordVal and its activities. He has made a significant contribution in improving the quality and the acceptance of alternative microbiological methods within the food control. Dr. Qvist has also been an appointed expert of NMKL since 1988, and contributes actively in the Nordic and International methodology work. He will attend the NMKL Annual Meeting in August, thus he has not fully retired from the Nordic method cooperation.



Dr. Sven Qvist

Denmark has appointed **Dr. Niels Nielsen**, The Danish Veterinary and Food Administration, as the new Danish representative in the NordVal Steering Group. The NordVal Steering Group, representing the 5 Nordic countries elected Niels Nielsen as new chairman as early as in May.

As of 1st July 2006, the NordVal address will be: NordVal,

*c/o Danish Veterinary and Food Administration
Mørkhøj Bygade 19, DK-2860 Søborg, Denmark
Tel: +45 33956187 E-mail: nln@fvst.dk*



Dr. Niels Nielsen

Other members of the Steering Group: Taina Niskanen, Finland; Viggo Marteinson, Iceland (new in 2006); Kjell Hauge, Norway and Per Norberg, Sweden.

Validated and certified NordVal Methods

The list of NordVal validated and certified methods can be seen on the NMKL web site.

This spring NordVal has completed validations and issued certificates for the Roche LightCycler *Listeria monocytogenes* Detection Kit and the Roche LightCycler *E. coli* O157 Detection Kit, both kits in combination with the ShortPrep II Kit. Furthermore NordVal has extended the certificate for the Roche LightCycler *Salmonella* Detection Kit to be valid for the meat matrix group when also using the Roche Diagnostics MagNA Pure LC DNA Isolation Kit III.

During the spring, NordVal has also renewed the certificates for:

- 3M Petrifilm *Enterobacteriaceae* Count Plate for the enumeration of *enterobacteriaceae* in all foods,
- 3M Petrifilm *E. coli* select for enumeration of *E. coli* in all foods,
- Bioline *Salmonella* Selecta for the detection of *Salmonella* in all foods and animal feed.

List of available NMKL Procedures

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| No. 1, 2nd Ed., 2005: | Calibration and performance checking of laboratory balances.
(Language: Swedish, English) |
| No. 2, 1995: | Performance check and in-house calibration of thermometers.
(Language: Swedish, English) |
| No. 3, 1996: | Control charts and control materials in internal quality control in food chemical laboratories. (Language: Swedish, English) |
| No. 4, 2nd Ed., 2005: | Validation of chemical analytical methods. (Language: Norwegian, English, Spanish) |
| No. 5, 2nd Ed., 2003: | Estimation and expression of measurement uncertainty in chemical analysis.
(Language: Swedish, English, Spanish) |
| No. 6, 1998: | Guidelines – Quality assurance of sensory laboratories.
(Language: Danish, Finnish) |
| No. 7, 1998: | Checking of UV/VIS spectrophotometers.
(Language: Danish, English) |
| No. 8, 2nd Ed., 2002: | Measurement of uncertainty in microbiological examination of foods.
(Language: Norwegian, English, Spanish) |
| No. 9, 2001: | Evaluation of results derived from the analysis of certified reference materials.
(Language: Swedish, English) |
| No. 10, 2001: | Control of microbiological media. (Language: Norwegian, Finnish, English) |
| No. 11, 2002: | Procedure for sensory analysis of drinking water. (Language: Norwegian, English) |
| No. 12, 2002: | Guide on sampling for analysis of foods. (Language: Norwegian, Finnish, Polish, English) |
| No. 13, 2003: | Volumetric control. (Language: Danish, English) |
| No. 14, 2004: | SENSVAL: Guidelines for internal control in sensory analysis laboratories.
(Language: Norwegian, English) |
| No. 15, 2004: | Temperature control in microbiological laboratories. (Language: Swedish, English) |
| No. 16 2005: | Sensory quality control. (Language: Norwegian, English) |

NMKL Procedures are not included in the NMKL Subscription, but can be ordered separately from the NMKL Secretariat. Procedures are forwarded by surface mail, as they are available as pamphlets.