



NORDIC COMMITTEE ON FOOD ANALYSIS

CONTENTS

ARRANGEMENTS

- ◆ **NMKL Course in Reporting of Sensory Data**, 11 May 2015, 11:30 – 14:30, Oslo, Norway
- ◆ **Food Labs in a Crystal Ball - Future Challenges in Food Analysis**,
AOAC Europe - NMKL - NordVal International, Symposium 2015
21 - 22 May 2015 in Stockholm, Sweden

NEW NMKL METHODS

- ◆ **Halophilic and osmophilic microbes ('Pink' and 'Dun'). Determination in salt-cured fish products.** (NMKL 171)
- ◆ **Sulphite-reducing Clostridia. Determination in Foods** (NMKL 56)

NEWS FROM NORDVAL INTERNATIONAL

RENEWED NORDVAL CERTIFICATES FOR

- ◆ ***Campylobacter* real-time PCR** - NordVal Certificate 017
- ◆ **Hygicult® TPC - Aerobe mikroorganismer** - NordVal Certificate 018

WITHDRAWAL OF NORDVAL CERTIFICATES

- ***Salmonella* ELISA Test OPTIMA** - NordVal Certificate 010
- **Bioline *Salmonella* ELISA test SELECTA** - NordVal Certificate 028
- ***Listeria* ELISA Test** - NordVal Certificate 046

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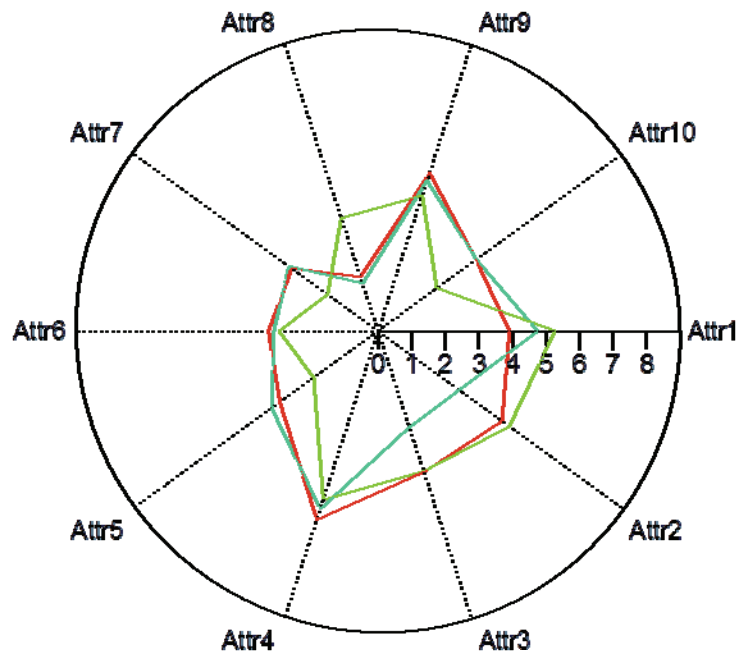
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NMKL COURSE IN REPORTING OF SENSORY DATA ,

11 MAY 2015, 11:30 –14:30 AT CLARION ROYAL CHRISTIANIA HOTEL, OSLO, NORWAY

The course will include:

- Review / validation of data; Are there agreement between the assessors?
- Presentation of raw data
- Statistical evaluation of data
- Graphical presentation of data
- Statistical analyses of non-parametric tests
- Statistical analyses of paired tests, e.g. duo-trio-test, triangle test, Friedman's test and analysis of variance
- Principal component analysis
- Use of PanelCheck Software in reporting of the data



"Spider plot", - one of several options in presenting results



The lecture of the course is Per Lea,
Nofima, Norway

The course will be held in connection with the Nordic Sensory Workshop.

The language of the course will be English.

Please register before 1 April 2015

Fee

NMKL subscribers/ students NOK 2000,-

Others: NOK 3000,-

Press for
registration

FUTURE CHALLENGES IN FOOD ANALYSIS

**AOAC Europe - NMKL - NordVal International,
Symposium 2015
21 - 22 MAY 2015 AT FAZER CONFERENCE CENTER,
FLEMINGGATAN 18, STOCKHOLM, SWEDEN**



- What are the future challenges for food laboratories?
- What should laboratories aim for?
- New techniques
- Exciting presentations and net working!

PROGRAM 21 MAY, PLENARY SESSION	
12:30	Registration / Exhibition
13:00	Welcome Chair of NMKL Dr. Ulla Edberg , Chair of AOAC Europe Dr. Pierre Metra
13:15	The future situation for governmental laboratories Director General Stig Orustfjord National Food Agency, Sweden
13:30	The future of food testing - which way to go? Dr. Franz Ulberth, European Commission, Joint Research Center, Belgium
14:00	Future Challenges in Food Analysis Prof. Dr. Med. Jan Alexander, Norwegian Scientific Committee of Food Safety, Norway
14:30	Lean Lab - Speed, Productivity and Quality? Dr. Bernd Renger, Bernd Renger Consulting, Germany
15:00	Coffee/Tea break and Exhibition
15:45	Standard methods versus method criteria Cand Scient Hilde Skår Norli, NMKL, Norwegian Veterinary Institute
16:00	Industry and an SDO's perspective Dr. Eric Konings, President of AOAC International, Nestle, Switzerland
16:30	From the Commission's perspective Dr. Frans Verstraete, European Commission, Directorate General for Health and Consumers
17:00	Closure

EXHIBITORS

- Agilent Technologies
- BergmanLabora AB
- Food Diagnostics
- Larodan AB
- Radox Food Diagnostics
- R-Biopharm AG
- Phenomenex Aps.
- Thermo Fisher Scientific



*AOAC Europe- NMKL -
NordVal - Symposium 2012*

22 MAY	SESSION FOR BIOTARGETS / MICROBIOLOGY	SESSION FOR CHEMICAL TARGETS
09:00 - 09:30	GMI: Global Microbial Identifier—The future of microbiology, Prof. Jørgen Schlundt, DTU Management Engineering, Denmark	Food Control: authentication using contaminant profile, Dr. Stig Valdersnes, National Institute of Nutrition and Seafood Research, Norway
09:30 - 10:00	Listeria-outbreak in Denmark, self-monitoring, food control, sampling, Dr. Jens Kirk Andersen, Technical University of Denmark	Strategies for analysis of unknown samples. Non targeted screening with LC-TOF, Dr. Johan Rosén, National Food Agency, Sweden
10:00 - 10:30	Sampling and analytical methods at early process steps to ensure the food safety of final products, Dr. Taran Skjerdal, Norwegian Veterinary Institute	An overview of new technologies in veterinary chemical residue control in food by rapid methods: immuno-microbio-receptor-biosensing, Dr. Valerie Gaudin, Anses - Laboratory of Fougères
10:30 - 11:00	Coffee/tea break / Exhibition/ Posters	
11:00 - 11:30	Microbiological examinations by using MALDI-TOF, Dr. Annica Tevell Åberg, National Veterinary Institute, Sweden	Preparedness: In situ trace element analysis of fish scales, Dr. Belinda Flem Geological Survey of Norway
11:30 - 12:00	Next generation sequencing (pathogenic strains) Dr. Thomas Hankeln, University Mainz, Germany	Microplastic in Food and Environment, Dr. Ruud J B Peters, Wageningen University, the Netherlands
12:00 - 12:30	Verification of microbiological methods, Dr. Charlotta Engdahl Axelsson, Eurofins, Sweden	New methods for allergens, Dr. Bert Popping, Merieux, France
12:30 - 13:30	Lunch / Exhibition /Posters	
13:30 - 14:00	Validation of alternative methods Dr. Gail Betts, Campden BRI, United Kingdom	Plant toxin & Food Adulteration, Dr. Joerg Stroka, European Commission - Joint Research Centre, Belgium
14:00 - 14:30	Harmonization of the NordVal International validation protocol with the new ISO 16140:2015 protocol for the validation of alternative microbiological methods. Dr. Sven Qvist, NordVal International	Multicomponent methods, Dr. Michelangelo Anastassiades, EU RL Stuttgart, Germany
14:30 - 15:00	Standardised molecular detection of waterborne pathogens, Dr. Jakob Ottoson, National Food Agency, Sweden	Contaminants/Perfluorinated Alkyl Substances Dr Xenia Trier, Technical University of Denmark
15:00 - 15:30	Coffee/tea break / Exhibition/ Poster	
PLENARY		
15:30 - 16:15	Food Scanning for contaminants - next generation consumer devices Dr. Menahem Kaplan Consumerphysics / SCIO, Israel	
16:15 - 16:45	Foodomics: 21st Century Food Science Using Omics Tools Prof. Dr. Alejandro Cifuentes, Laboratory of Foodomics, CIAL, National Research Council of Spain	
16:45 - 17:00	Closure	



POSTERS

There will be poster exhibition both days. The deadline for abstract submission is closed.

EXHIBITORS

- Agilent Technologies
- BergmanLabora AB
- Food Diagnostics
- Larodan AB
- Randox Food Diagnostics
- R-Biopharm AG
- Phenomenex Aps.
- Thermo Fisher Scientific

ACCOMMODATION

There are several hotels close to Fazer Restaurant & Conference at Fleminggatan 18 at Kungsholmen, which is located 10 min walking distance from Stockholm Central station. Please make your own reservation. For instance Choice Hotel Amaranthen is only 3 min walk from the location of the conference.

*For any questions,
Please email
nmkl@vetinst.no*

Program Committee

Pierre Metra
Sune Eriksson
Klaus Reif
Bert Pöpping
Eric Verdon
Suvi Ojanpera
Tuija Pihlström
Dag Grønningen
Franklin Georgsson
Arne Højgård Jensen
Hilde Skår Norli

Language

English

Fee

- Students: 100 € (NOK 900)
- Members/Subscribers: 300 € (NOK 2500)
- Others: 350 € (NOK 3000)
- Exhibitors: 1500 € (covers facilities and registration for 2 persons).

Deadline

15 April 2015

Press
for
registration

If the link is not working,
please register by emailing
NMKL at nmkl@vetinst.no.

HALOPHILIC AND OSMOPHILIC MICROBES ('PINK' AND 'DUN'). DETERMINATION IN SALT-CURED FISH PRODUCTS.

NMKL METHOD No. 171, 3. Ed., 2015

Field of Application

The method can be applied to demonstrate the presence of Pink and Dun in salt-cured fish. The lower limit of detection is 100 colony-forming units of the microbe in question per gram of fish. Note that the microbe content may vary greatly on different parts of the fish.



Pink and dun

Fully-salted fish products contain approx. 20% salt, and can be preserved for several months if kept dry at 4°C. At higher temperatures, they are destroyed by halophilic and osmophilic microbes, known as "Pink" and "Dun". These organisms only affect high-salt products.

Pink is a traditional term used in the fishing industry for visible growth of extremely halophilic bacteria in salt-cured fish products. The bacteria belong to the family *Halobacteriaceae*, which belongs to the class *Archaeobacteria*, and are true halophiles. Their cell wall structure differs from that of most other bacteria, but they give a Gram-negative reaction with the Gram-test modified with KOH. Most species causing Pink are non-motile and obligate aerobes. Some require only 8% NaCl for growth, but in most cases 17 - 23% NaCl is required for good growth. Colonies can show different shades of red, pink, orange-red, scarlet or red-violet, while others may be colourless.

Dun is the traditional term for the occurrence of brown colonies (1 - 2 mm in diameter) in salted fish. Dun is a fungus (*Wallemia sebi*, previously *Sporendonema epizoum*). Dun is an obligate aerobe. It is osmophile/xerophile, and is able to grow on a substrate containing 5 - 26% NaCl or on a substrate containing 20% sucrose or 20% glycerol. It grows at 5 - 37 °C, and at pH 4 - 8. Optimal conditions are water activity equivalent to 10 - 15% NaCl, 75% relative humidity and temperature 25 °C. Growth is stimulated by light. The fungal cells are cubic or cylindrical-shaped. Their pigment colour changes with salt content, a low salt content giving chocolate brown colonies, medium salt content giving light brown colonies and high salt content giving green-brown colonies.

Method Principle

Pink and Dun can be demonstrated by inoculating on the appropriate agar media. Samples for Pink are incubated at 37 °C for 2 - 3 weeks, while samples for Dun are incubated at 20 °C (room temperature: 18–24 °C) for up to 2 weeks. Most species will form visible colonies within 4 days. Both Pink and Dun are characterised by their pigmented colonies.

Additions in this revised NMKL 171

The following changes, in the Dun part of the method, have been introduced:

- Some adjustments in the description
- Modified Vaisey medium has been omitted
- A procedure to cover other pigmented microbes than *Wallemia sebi* is introduced
- Microscopy for confirmation is introduced



Dr. Ida Skaar, Norwegian Veterinary Institute, Norway has revised the method.

Torkjell Bruheim (NO), Taran Skjerdal (NO) and Jógvan Fjallsbak (FO) have assisted in the revision.

SULPHITE-REDUCING CLOSTRIDIA. DETERMINATION IN FOODS

NMKL METHOD No. 56, 5. Ed., 2015

The genus *Clostridium* comprises spore-forming, mainly motile, gram-positive, anaerobic rods. They appear in soil and in the gastrointestinal tract of animals and man. The most important *Clostridium* causing foodborne intoxication are *C. botulinum* and *C. perfringens*. In vacuum-packed raw and heat-processed meat and fish products, psychrotrophic Clostridia can cause spoilage (blown packs and/or foul smell). In addition, thermophilic Clostridia may cause spoilage especially in canned foods, as the spores may be extremely heat resistant.



FIELD OF APPLICATION

A method is described for determination of the number of anaerobic, sulphite-reducing bacteria present in foods. The number of sulphite-reducing Clostridia or *C. perfringens* is determined by further verification of the colonies. The method is applicable to all types of foods.

DEFINITION

The bacteria being determined according to this standard are sulphite-reducing bacteria, capable of anaerobic growth. Generally, these bacteria will belong to genus Clostridia, but it can not be ruled out that other, non-related bacteria (e.g. *Salmonella*) can form black colonies when using this method. If requested, the colonies can be verified as Clostridia or *C. perfringens*.

If the Iron Sulphite agar is incubated at 37 °C, the psychrotrophic and thermophilic Clostridia may not be determined. If these Clostridia are expected, the incubation temperature should be adjusted accordingly and addition of further nutrition factors (e.g. carbohydrates and vitamin K₁) should be considered.

PRINCIPLE

The number of sulphite-reducing bacteria is determined by pouring known amounts of sample into a growth medium containing ammonium iron(III) citrate and disodium disulphite (sodium metabisulphite). After incubation for 1 - 2 days at 37 °C (final reading after 2 days), typical black colonies are counted. If psychrotrophic or thermophilic bacteria are suspected, a lower respectively higher temperature should be used for incubation (e.g. 20.0 ± 1.0°C or 50.0 ± 1.0°C).

The black colour of the colonies and the surrounding zone is due to the formation of H₂S, which reacts with trivalent iron (Fe³⁺, ferri-ions) present in the medium, resulting in the formation of the black precipitate iron sulphide. If sulphite-reducing Clostridia or *C. perfringens* are to be determined, further verification should be carried out. If the number of spores is to be determined, the primary dilution is heated for 80 °C in 10 minutes in order to eliminate vegetative cells

ADDITIONS

The revised 5th edition of the method has been added a procedure for verification of the colonies in order to specifically determine sulphite-reducing Clostridia or *C. perfringens*. Consequently, the title has been changed from "Anaerobic sulphite-reducing bacteria" to "Sulphite-reducing Clostridia".



Dr. Flemming Hansen, Danish Technological Institute, DMRI, Denmark, has revised the method.

Anna Pitkälä (FI), Margrét Geirsdóttir (IS) and Heidi Sagen (NO) assisted in the revision.



NMKL publications now also available in Finnish:

- NMKL Procedure No. 29, 2014: Sensory Analysis of Meat and Meat Products.
- NMKL 86, 2013: Aerobic microorganisms. Determination in foods at 37 °C, 30 °C, 25 °C, 20 °C, 17/7 °C or 6.5 °C by the colony count method.

Is there a method that should have been made into an official method, feel free to contact [NMKL](#).

Would you like to get online access to NMKL publications?

NMKL offers Online subscription for 1-3 users:

- NMKL Methods: NOK 2500,-
(New registration: 5000,-)
- NMKL Procedures: NOK 1500,-
(New registration: 4000)
- NMKL Methods + NMKL Procedures: NOK 3500,-
(New registration: 8000,-)

You will receive emails when a new method or procedure is published. For accessing the publications, you need to log in with username and password. Please do not hesitate to email us at nmkl@vetint.no if you have any problems in getting access.

Single publications:

- NMKL Methods: NOK 500,-
- NMKL Procedures: NOK 400,- (≤ 30 pages) and NOK 600,- (> 30 pages)

Please note that you need to download the method yourselves after payment.



Would you like becoming a member of NMKL?

Benefits of being a member:

- Excellent network within food analysis, both nationally and Nordic
- Discussions in the elaboration of analytical methods and in quality assurance
- Promoting your institution
- Having influence

Requirements:

- Being from one of the Nordic Countries
- Professional skills within the scope of NMKL
- Possibilities to assist in developing methods and procedures
- Possibilities to participate in national committee meetings, 3-4 times a year and at the NMKL Annual Meeting, which is held at the end of August every year in one of the Nordic countries. Travel expenses are covered by the members.

If you like becoming a member, please contact the chairperson of the national committee in your country:

- **Danmark:** Arne Højgård Jensen (arho@fvst.dk)
- **Finland:** Tuula Pirhonen (tuula.pirhonen@evira.fi)
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- **Sverige:** Ulla Edberg (uled@slv.se)

NEWS FROM NORDVAL INTERNATIONAL



CAMPYLOBACTER REAL-TIME PCR - NORDVAL CERTIFICATE 017

The steering group of NordVal International has renewed the certificate for a method elaborated by Eurofins. The method is applicable for detection of human pathogenic thermotolerant *Campylobacters* (*C. jejuni*, *C. coli* and *C. lari*) in chicken raw meat, cloacae swabs and faecal samples collected on disposable shoe covers in rearing houses.

The sensitivity of the method is 1-10 cfu/ 25 gram in raw chicken meat and 100-1000 cfu/ml in dilutions of cloacae swabs and faecal samples collected on disposable shoe covers.

The method is open, i.e. all reagents are fully described.

The method was compared against ISO 10272-4 and NMKL 119. There were statistically significant differences in the results obtained with the different methods. For the method description and the results of the validations, please see: [NordVal Certificate 017](#)



HYGICULT® TPC - AEROBIC MICROORGANISMS - NORDVAL CERTIFICATE 018

The steering group of NordVal International has renewed the certificate for Hygicult®TPC from Orion Diagnostica Oy.

Hygicult®TPC is a culture slide for rapid monitoring of microbiological hygiene in different types of materials, both solid and liquid. The slide is covered on both sides with Total Plate Count (TPC) agar which supports rapid growth of the most common bacteria and fungi.

Hygicult®TPC has been tested in a collaborative study, and was compared against NMKL Method No. 5. The incubation temperatures tested were 25 and 30°C, and the incubation times were 48 and 72 hours. There were no significant statistical differences in the results of the two methods. The new certificate is valid until 1 April 2017.



Here is the link to the certificate: [NordVal Certificate 018](#)

NEWS FROM NORDVAL INTERNATIONAL

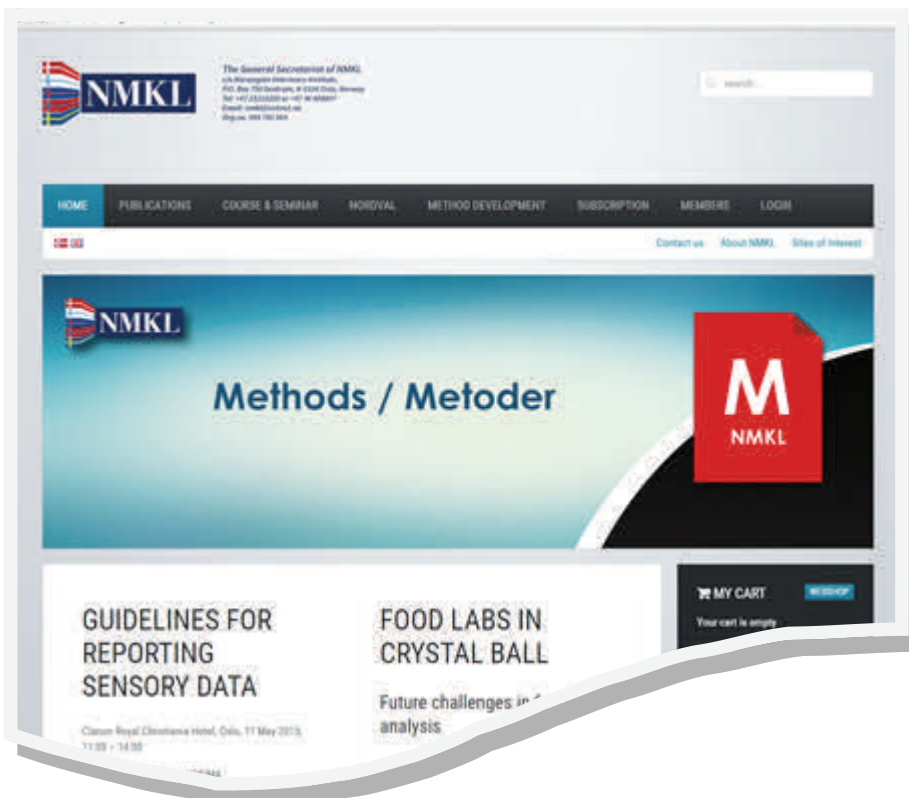


WITHDRAWAL OF NORDVAL CERTIFICATES

The firm Diatek AG, Switzerland, is dissolved. The production of test kits ceases, therefore the following NordVal Certificates are withdrawn:

- NordVal Certificate 010: Salmonella ELISA Test OPTIMA
- NordVal Certificate 028: Biline Salmonella ELISA test SELECTA
- NordVal Certificate 046: Listeria ELISA Test

After 1 April 2015, these NordVal Certificates should no longer be referred to.



Regrettably, Explorer is not the best browser for the homepage of NMKL.

Google Chrome or Firefox is recommended.

Hint!

When searching for a NMKL method, write "NMKL" followed by the number (no space), e.g. "NMKL56".

