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NMKL Newsletter

NORDIC COMMITTEE ON FOOD ANALYSIS

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NEWS FROM NORDVAL INTERNATIONAL

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- ***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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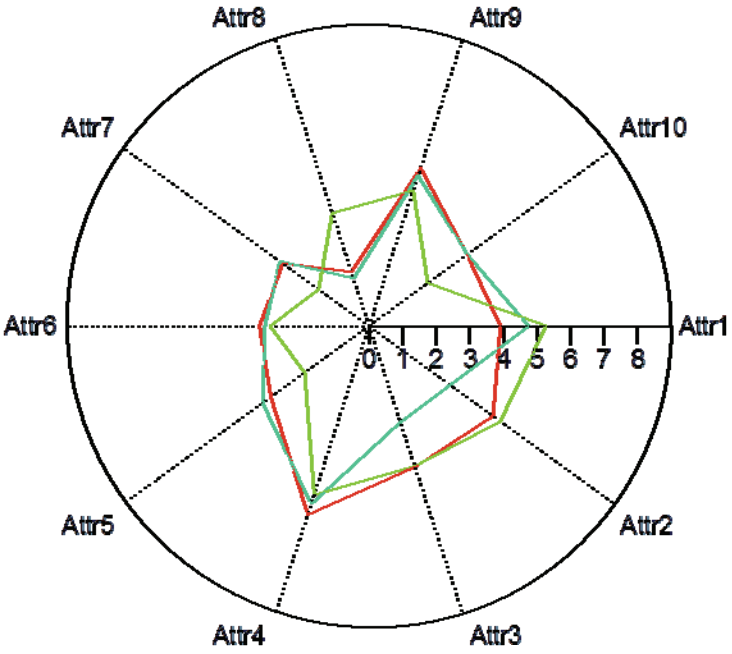
NMKL Course in Reporting of Sensory data ,

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. Berd 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

- 3M Food Safety
- Agilent Technologies
- BergmanLabora AB
- Food Diagnostics
- Labolytic AS
- Larodan AB
- Randox 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 Fougeres**
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, Meriuex, 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

- 3M Food Safety
- Agilent Technologies
- BergmanLabora AB
- Food Diagnostics
- Labolytic AS
- 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 Amaranten is only 3 min walk from the location of the conference.

For any questions,
Please email
nmkl@vetinst.no

Program Committee

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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 ºC 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.

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.

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

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 t-ract 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 num-ber 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 K_1) should be considered.

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

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

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 H_2S, which reacts with triva-lent iron (Fe^{3+}, 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”.

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.

NMKL

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: Bioline 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”.