

Udsigt til indsigt
– en webinarserie om fødevarer-sikkerhed og -kvalitet

Tirsdag d. 24. februar 2026

DMRI Library en genvej til viden om:

**-Hygiejne & rengøring i
produktionsmiljø**

**-Holdbarhed og fødevarer-
sikkerhed af kød og
kødprodukter**

Starter kl. 12.00

Agenda

Kort om DMRI Predict

Brug af DMRI Library

Nyt i Predict pipelinen



DMRI Predict

- En samling af prædiktive modeller for kød og kødprodukter (og nu også et bibliotek!)
- Kan bruges til at vurdere fødevarer sikkerhed og fordærv, både mikrobiologisk og sensorisk
- Modellerne er udviklet i samarbejde med kødindustrien og er baseret på en lang række holdbarheds- og challengeforsøg udført med kød





DMRI Predict har 2.000 brugere i 83 lande

<http://dmripredict.dk>

Matematiske modeller anbefales af myndighederne

Vejledning om mikrobiologiske kriterier (9179 of March 5, 2025)

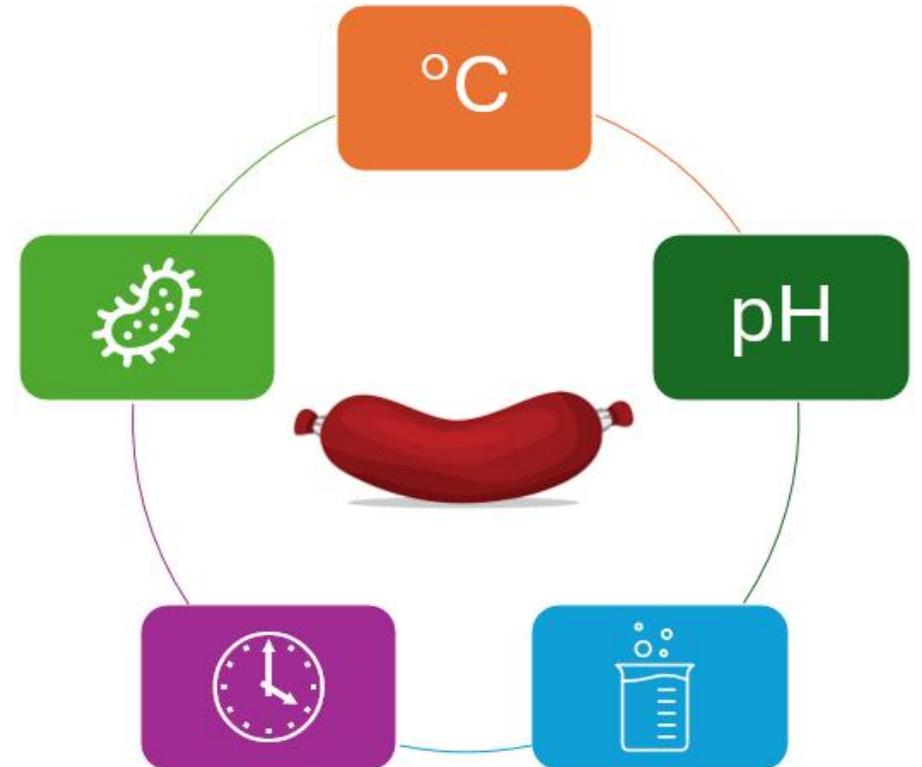
- Combase, (the University of Tasmania and the USDA Agricultural Research Service (USDA-ARS))
 - link: <https://combasebrowser.errc.ars.usda.gov/>
- Food Spoilage and Safety Predictor (FSSP), (Technical University of Denmark, DTU)
 - link: <http://fssp.food.dtu.dk/>
- DMRI's predictive models for meat, (the Danish Meat research Institute, DMRI)
 - link: <http://dmripredict.dk>
- Pathogen Modeling Program (PMP), (USDA Agricultural Research Service (USDA-ARS))
 - link: <https://portal.errc.ars.usda.gov/PMP.aspx>



DMRIs StaphTox model anbefales i "FSIS Cooking Guideline for Meat and Poultry Products (Revised Appendix A)"

Prædiktiv mikrobiologi – helt basalt

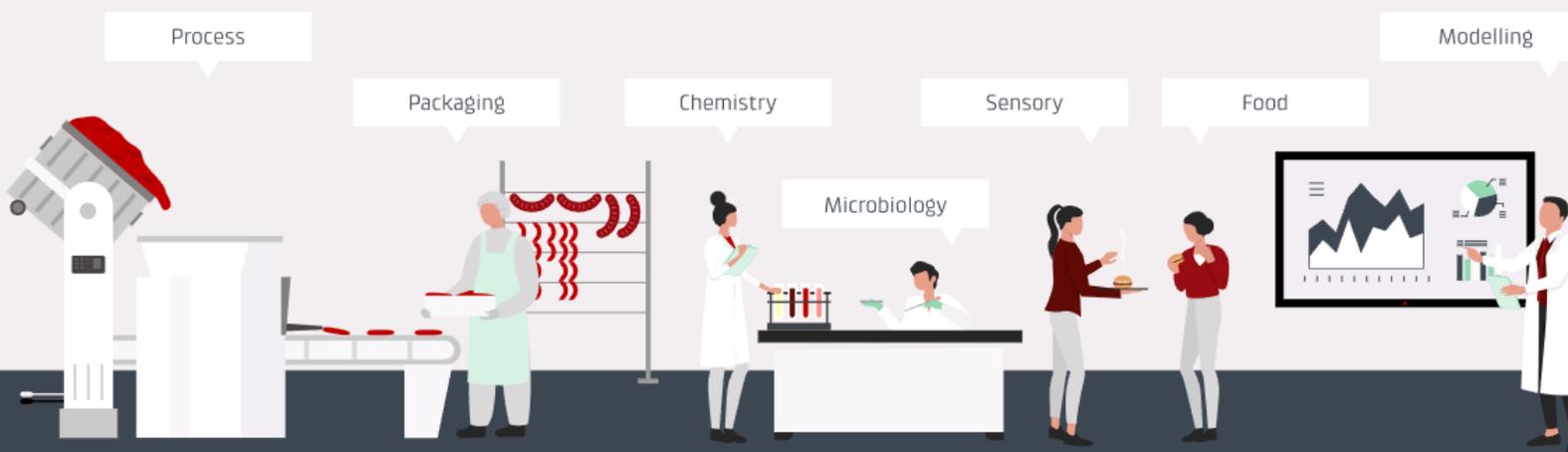
- Teste MANGE produkter
- Skrue på forskellige parametre
- Indsamle data
- Gennemføre matematisk modellering
- Bruge den opnåede viden til at 'spå' om tilsvarende produkter



First time here?

Welcome to DMRI Predict

DMRI Predict is a collection of predictive models that can be used to estimate the growth, inactivation, or survival of microorganisms in meat products. Predictive models enable the user to evaluate the effects of different variables, such as temperature, pH, water activity, preservatives, or processing methods, on the microbial quality and safety of food.



Library bygger på en lang række udvalgte rapporter fra mange års forskning

AI benyttes til søgning af rapporter samt generering af resumé (der søges kun blandt de udvalgte rapporter)

AI benyttes med forsigtighed – fravalgt at få genereret resume på tværs af rapporter (de enkelte rapporter bygger oftest på definerede forsøg, hvorfor resultater altid skal ses i sammenhæng med de anvendte forsøgsfaktorer)

Modelling



DMRI Library

Food Safety & Quality

Author(s):

Title:

DMRI Library is an online repository of scientific reports, research papers, technical documents, and related materials published over the last 30+ years.

DMRI Library aims to facilitate access to historical and contemporary scientific knowledge gathered and generated by the Danish Meat Research Institute over the years for educational, research, and informational purposes.

[Disclaimer](#)

Flere veje til fremsøgning af rapporter

Engelsk og dansk kan anvendes

DMRI Library

Food Safety & Quality

Author(s): Title:

What are you looking for?

DMRI Library is an online repository of scientific reports, research papers, technical documents, and related materials published over the last 30+ years.

DMRI Library aims to facilitate access to historical and contemporary scientific knowledge gathered and generated by the Danish Meat Research Institute over the years for educational, research, and informational purposes.

[Disclaimer](#)

Eksempel: Søge via forfatternavn (dropdown liste) OG ord i overskrift

Author(s): Title: [Anette Granly Koch](#) ✕

Biokonservering | Antilisteriel effekt af *Leuconostoc carnosum* 1043 ved pilot plant forsøg med industrislicer

Biopreservation | Antilisterial effect of *Leuconostoc carnosum* 1043 during pilot plant experiments with industrial slicer

Anette Granly Larsen | 29 May 2000 | Project No.: 18.318

[Show report >](#)

Purpose

To develop and test an application system to evenly distribute biopreservation cultures on sliced meat products in order to prevent *Listeria* growth, verified through pilot studies using an industrial slicer.

[View more](#)

Biokonservering | Vækst af bacteriocinbehandlede celler af *Listeria monocytogenes*, betydning af pH, temperatur og atmosfære

Biopreservation | Growth of bacteriocin-treated cells of *Listeria monocytogenes*, effect of pH, temperature, and atmosphere

Anette Granly Larsen | 31 October 2000 | Project No.: 18.318

[Show report >](#)

Purpose

The purpose of this experiment is to investigate to what extent pH, medium, temperature, and atmosphere affect *Listeria monocytogenes*' ability to repair or extend lag phase after short-term treatment with bacteriocin.

[View more](#)

Biokonservering | Undersøgelse for *Listeria* i skjulte dele på sliceren

Biopreservation | Investigation for *Listeria* in hidden parts of the slicer

Anette Granly Larsen | 2 January 2001 | Project No.: 18.318

[Show report >](#)

Purpose



- Søger i både titel og indhold
- Søgbar både på engelsk og dansk

Spegepølse

Search

Salt i et helhedsperspektiv | Saltreduceret spegepølse

Match: 80.7%

Salt in a holistic perspective | Salt-reduced salami

Christian Vestergaard, Margit D. Aaslyng, Annemarie Gunvig, and Eli V. Olsen | 2 April 2009 | Project No.: 18397

[Show report >](#)

Purpose

To investigate the effect of salt reduction on the shelf life, safety, functionality/yield, and taste of fermented salami and other selected products.

[View more](#)

Sikre nøglehulsmærkede spegepølser af høj kvalitet | Recept for og procesoptimering af nøglehulsmærkede spegepølser

Match: 80.5%

Safe Keyhole-labelled Spegepølser of High Quality | Recipe for and Process Optimization of Keyhole-labelled Spegepølser

Lise Nersting | 12 December 2018 | Project No.: 2006252

[Show report >](#)

Purpose

The purpose is to improve the texture of keyhole-labelled spegepølser while also considering microbiological safety.

[View more](#)

Gær i kødprodukter | Forekomst af gær i produktionsmiljø. råvarer og færdigvarer (bacon, skinke.

Match: 80.3%



- Søger i både titel og indhold
- Søgbar både på engelsk og dansk
- Viser kort udgave m. formål først (overblik)
- Flere detaljer ved klik på 'View more'

Spegepølse

Search

Salt i et helhedsperspektiv | Saltreduceret spegepølse

Match: 80.7%

Salt in a holistic perspective | Salt-reduced salami

Christian Vestergaard, Margit D. Aaslyng, Annemarie Gunvig, and Eli V. Olsen | 2 April 2009 | Project No.: 18397

[Show report >](#)

Purpose

To investigate the effect of salt reduction on the shelf life, safety, functionality/yield, and taste of fermented salami and other selected products.

[View more](#)

Sikre nøglehulsmærkede spegepølser af høj kvalitet | Recept for og procesoptimering af nøglehulsmærkede spegepølser

Match: 80.5%

Safe Keyhole-labelled Spegepølser of High Quality | Recipe for and Process Optimization of Keyhole-labelled Spegepølser

Lise Nersting | 12 December 2018 | Project No.: 2006252

[Show report >](#)

Purpose

The purpose is to improve the texture of keyhole-labelled spegepølser while also considering microbiological safety.

[View more](#)

Gær i kødprodukter | Forekomst af gær i produktionsmiljø, råvarer og færdigvarer (bacon, skinke.

Match: 80.3%



- Søger i både titel og indhold
- Søgbar både på engelsk og dansk
- Viser kort udgave m. formål først (overblik)
- Flere detaljer ved klik på 'View more'
- Viser konklusion (AI genereret)

Spegepølse

Search

Sikre nøglehulsmærkede spegepølser af høj kvalitet | Recept for og procesoptimering af nøglehulsmærkede spegepølser

Match: 80.5%

Safe Keyhole-labelled Spegepølser of High Quality | Recipe for and Process Optimization of Keyhole-labelled Spegepølser

Lise Nersting | 12 December 2018 | Project No.: 2006252

[Show report >](#)

Purpose

The purpose is to improve the texture of keyhole-labelled spegepølser while also considering microbiological safety.

Conclusion

KCl was the most effective ingredient to achieve a good texture without significantly affecting the taste. Addition of 0.85% KCl to the recipe gave a texture corresponding to the reference regarding cohesion, firmness, and crumbliness. Addition of 0.51% KCl was insufficient to achieve the same effect. Addition of 1% pea protein or 2% rye fiber resulted in a crumbly texture. Using beef instead of ham resulted in a slightly less crumbly texture. Addition of animal protein did not improve texture. Only a few evaluators noticed a bitter taste with KCl, which could likely be masked with more seasoning. Rye fiber and, to some extent, pea fiber caused off-flavors. Use of GDL and starter culture and drying at 5°C produced spegepølser with a bland, dull flavor lacking the characteristic salami taste.

[View less](#)

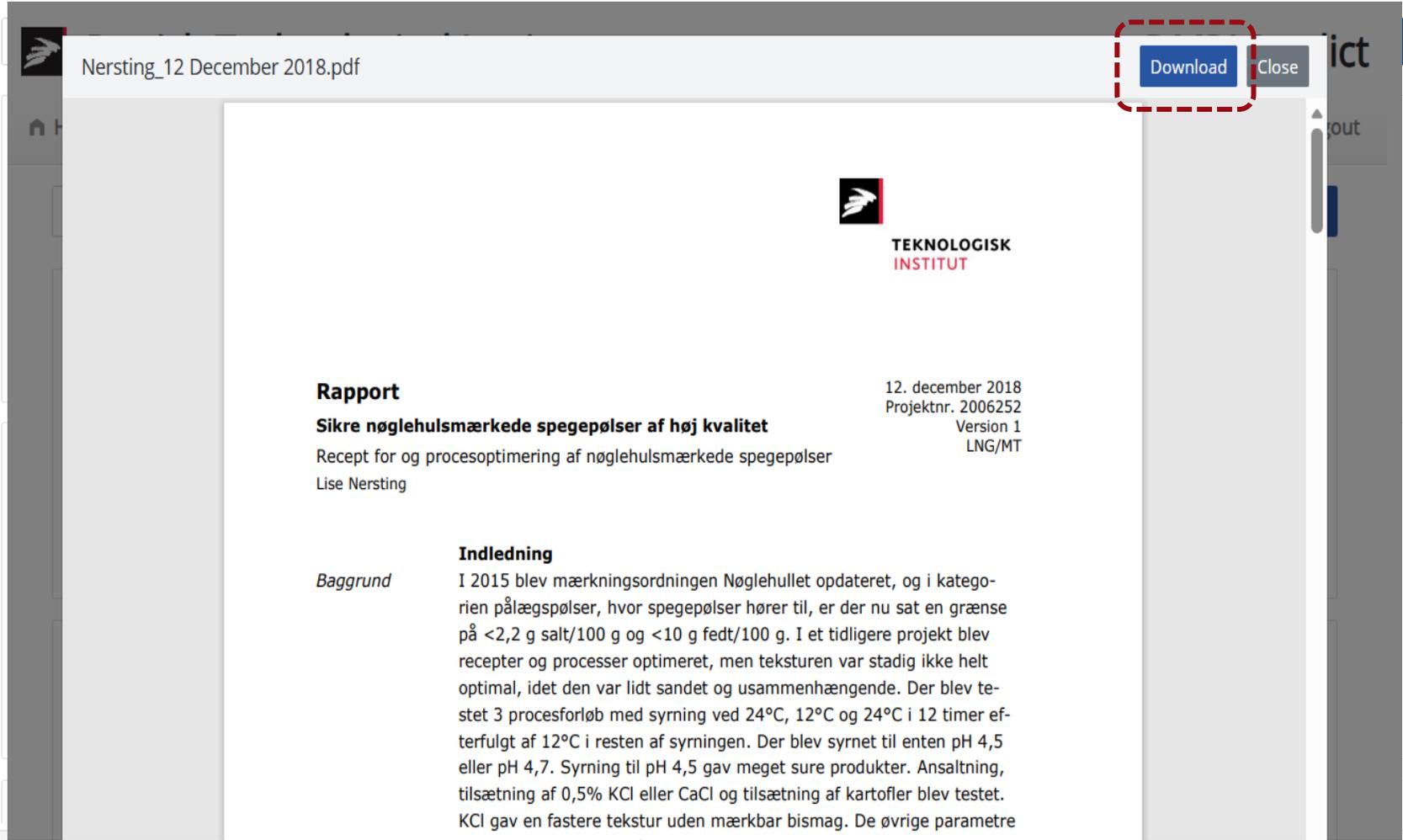
Gær i kødprodukter | Forekomst af gær i produktionsmiljø, råvarer og færdigvarer (bacon, skinke, leverpostej og spegepølse)

Match: 80.3%

Yeasts in Meat Products | Occurrence of Yeasts in the Production Environment, Raw Materials, and Finished Products (bacon, ham, liver pate and salami)

Anette Granlv Koch, Tomas Jacobsen, and Niels Arneborg | 6 December 2006 | Project No.: 18525

- Søger i både titel og indhold
- Søgbar både på engelsk og dansk
- Viser kort udgave m. formål først (overblik)
- Flere detaljer ved klik på 'View more'
- Lang udgave viser konklusion (AI genereret)
- Forhåndsvisning af rapport ved klik på 'Show report' (kan derefter downloades)



Nersting_12 December 2018.pdf

TEKNOLOGISK INSTITUT

Rapport

Sikre nøglehulsmærkede spegepølser af høj kvalitet

Recept for og procesoptimering af nøglehulsmærkede spegepølser

Lise Nersting

12. december 2018
Projektnr. 2006252
Version 1
LNG/MT

Baggrund

Indledning

I 2015 blev mærkningsordningen Nøglehullet opdateret, og i kategorien pålægspølser, hvor spegepølser hører til, er der nu sat en grænse på <2,2 g salt/100 g og <10 g fedt/100 g. I et tidligere projekt blev recepter og processer optimeret, men teksturen var stadig ikke helt optimal, idet den var lidt sandet og usammenhængende. Der blev testet 3 procesforløb med syring ved 24°C, 12°C og 24°C i 12 timer efterfulgt af 12°C i resten af syringen. Der blev syrnede til enten pH 4,5 eller pH 4,7. Syring til pH 4,5 gav meget sure produkter. Ansaltning, tilsætning af 0,5% KCl eller CaCl og tilsætning af kartofler blev testet. KCl gav en fastere tekstur uden mærkbar bismag. De øvrige parametre



- Søgning : rengøring

rengøring

Search

Hygiejnisk produktion - eliminering af *Listeria monocytogenes* i biofilm på procesudstyr | Drabseffekt af UVC-lys kombineret med rengøring og desinfektion over for *Listeria monocytogenes*

Match: 78.7%

Hygienic production - elimination of *Listeria monocytogenes* in biofilm on process equipment | Lethal effect of UVC light combined with cleaning and disinfection against *Listeria monocytogenes*

Vinnie H. Rasmussen | 21 August 2003 | Project No.: 18449

[Show report >](#)

Purpose

To investigate the effect of UVC light after cleaning with selected cleaning and disinfection agents on stainless steel surfaces contaminated with *L. monocytogenes* - as "free cells" and not biofilm-bound.

[View more](#)

Rapport | Renspån/nytænkning af rengøring med afsæt i kemi | Teknologi til interval-/pauserengøring af udstyrsoverflader | opdateret september 2020

Match: 77.9%

Report | Reimagining/Innovation of Cleaning Based on Chemistry | Technology for Interval/Break Cleaning of Equipment Surfaces | updated September 2020

Vinnie Rasmussen and Emma Bilsted Petersen | 1 October 2020 | Project No.: 2003024/2007949

[Show report >](#)

Purpose

The purpose is to describe and assess technologies for interval cleaning of equipment surfaces in the slaughterhouse and processing industry, as well as to assess their bacteriological effect.

[View more](#)

RENGØRING - LISTERIA I BIOFILM

Match: 77.9%

Cleaning - *Listeria* in Biofilm

Birthe Jessen | 15 May 2001 | Project No.: 18.350

[Show report >](#)

Purpose



- Søgning : rengøring ECA

Author(s):

Title:

Filter by title...

rengøring ECA

Search

Rapport | Optimeret rengøring og desinfektion i kødindustrien | WP1 - Nytænkning af rengøring med afsæt i kemien

Match: 82.4%

Report | Optimized cleaning and disinfection in the meat industry | WP1 - Rethinking cleaning based on chemistry

Emma Bildsted Petersen | 2 November 2020 | Project No.: 2007049

[Show report >](#)

Purpose

The purpose of the report is to investigate and provide new knowledge to the Danish meat industry regarding the targeted and optimized use of cleaning chemicals by testing ATC CleanCoat and ECA-water for their potential to be implemented in daily cleaning procedures.

[View more](#)

Miljørigtig rengøring | Desinfektion med ECA-vand | Slutrapport

Match: 81.2%

Environmentally friendly cleaning | Disinfection with ECA water | Final report

Emma Bildsted Petersen and Gry Carl Terrell | January 2025 | Project No.: N/A

[Show report >](#)

Purpose

The purpose of the report is to test and evaluate ECA water as an alternative disinfectant to sodium hypochlorite in the meat industry, focusing on its disinfection effect, potential risks to product quality and equipment, and practical aspects such as stability and measurement methods, with the goal of reducing environmental and health impacts associated with current cleaning chemicals.

[View more](#)



- Søgning : rengøring ECA

Author(s): Title:

[Search](#)

Rapport | Renspåny/nytænkning af rengøring med afsæt i kemi | Teknologi til interval-/pauserengøring af udstyrsoverflader | opdateret september 2020 Match: 80.5%

Report | Reimagining/Innovation of Cleaning Based on Chemistry | Technology for Interval/Break Cleaning of Equipment Surfaces | updated September 2020

Vinnie Rasmussen and Emma Bilsted Petersen | 1 October 2020 | Project No.: 2003024/2007949

[Show report >](#)

Purpose

The purpose is to describe and assess technologies for interval cleaning of equipment surfaces in the slaughterhouse and processing industry, as well as to assess their bacteriological effect.

[View more](#)

Rengøring med mindre vand | Korrosionsforsøg med ECA-vand (Neuthox) Match: 79.4%

Cleaning with less water | Corrosion test with ECA water (Neuthox)

Anette Granly Koch | 29 March 2023 | Project No.: 2009641

[Show report >](#)

Purpose

The purpose is to investigate whether ECA water is corrosive to steel/metals of different types.

[View more](#)



- Søgning : rengøring Listeria

Author(s): Title:

[Search](#)

Desinfektion af svært tilgængelige områder

Match: 84.1%

Disinfection of hard-to-reach areas

Sofia Wiberg, Marie Tøstesen, and Claus Hindborg Kristensen | March 2019 | Project No.: 2006255

[Show report >](#)

Purpose

The purpose of this report is to present a brief generic report with general recommendations for cleaning and disinfection of hard-to-reach places, based on baseline surveys conducted at various industrial meat producers. Furthermore, the report provides an overview of alternative disinfection methods in the meat industry to help companies better assess and choose among alternative methods for industrial disinfection.

[View more](#)

Hygiejnisk produktion - eliminering af Listeria monocytogenes i biofilm på procesudstyr | Drabseffekt af rengøring og desinfektion kombineret med UVC-lys over for Listeria monocytogenes på slicelinie

Match: 83.9%

Hygienic production - elimination of Listeria monocytogenes in biofilm on process equipment | Killing effect of cleaning and disinfection combined with UVC light against Listeria monocytogenes on slicing line

Vinnie H. Rasmussen | 21 August 2003 | Project No.: 18.449

[Show report >](#)

Purpose

Investigate the killing effect of cleaning and disinfection combined with UVC light against biofilm-bound L. monocytogenes.

[View more](#)

Hygiejnisk produktion | Rengøring- og desinfektionsmidlers effekt på biofilmbundne Listeria monocytogenes

Match: 83.2%

Hygienic production | Effect of cleaning and disinfection agents on biofilm-associated Listeria monocytogenes

Annemarie Gunvig | 25 October 2002 | Project No.: 9286.1

[Show report >](#)

Purpose

The purpose is to determine the ability of selected cleaning and disinfection agents to inactivate biofilm-associated L. monocytogenes on metal chips.

[View more](#)

Hygiejnisk produktion - eliminering af Listeria monocytogenes i biofilm på procesudstyr | Drabseffekt af UVC-lys kombineret med rengøring og desinfektion over for Listeria monocytogenes

Match: 83%

Hygienic production - elimination of Listeria monocytogenes in biofilm on process equipment | Lethal effect of UVC light combined with cleaning and disinfection against Listeria monocytogenes

Vinnie H. Rasmussen | 21 August 2003 | Project No.: 18449

[Show report >](#)

Purpose

To investigate the effect of UVC light after cleaning with selected cleaning and disinfection agents on stainless steel surfaces contaminated with L. monocytogenes - as "free cells" and not biofilm-bound.

[View more](#)

Hygiejnisk produktion - eliminering af Listeria monocytogenes i biofilm på produktionsudstyr | Effekt af IPA-sprit og P3-sterile til pauserengøring af slicelinje

Match: 82.9%

Hygienic production - elimination of Listeria monocytogenes in biofilm on production equipment | Effect of IPA alcohol and P3-sterile for interim cleaning of slicing line

Vinnie H. Rasmussen | 1 November 2002 | Project No.: 18449

[Show report >](#)

Purpose

To test the effect of the disinfectants IPA alcohol and P3-sterile against aerobic bacteria at 20°C and Listeria monocytogenes on surfaces of process equipment on the slicing line.

[View more](#)

Hygiejnisk produktion - eliminering af Listeria monocytogenes i biofilm på procesudstyr | Drabseffekt af rengøring og desinfektion kombineret med UVC-lys over for Listeria monocytogenes på slicelinje

Match: 82.8%

Hygienic production - elimination of Listeria monocytogenes in biofilm on process equipment | Killing effect of cleaning and disinfection combined with UVC light against Listeria monocytogenes on slicing line

Vinnie H. Rasmussen | 21 August 2003 | Project No.: 18.449

[Show report >](#)

Purpose

To investigate the killing effect of cleaning and disinfection combined with UVC light against biofilm-bound L. monocytogenes.

[View more](#)

Rapport | Renspåny/nytænkning af rengøring med afsæt i kemi | Teknologi til interval-/pauserengøring af udstyrsoverflader | opdateret september 2020

Match: 82.7%

Report | Reimagining/Innovation of Cleaning Based on Chemistry | Technology for Interval/Break Cleaning of Equipment Surfaces | updated September 2020

Vinnie Rasmussen and Emma Bilsted Petersen | 1 October 2020 | Project No.: 2003024/2007949

[Show report >](#)

Purpose

The purpose is to describe and assess technologies for interval cleaning of equipment surfaces in the slaughterhouse and processing industry, as well as to assess their bacteriological effect.

[View more](#)

Hygiejnisk produktion | Virkning af IPA-sprit og P3 P3-steril virkning på biofilmbundne Listeria monocytogenes i en pauserengøringsmodel

Match: 82.6%

Hygienic production | Effect of IPA-alcohol and P3 P3-steril on biofilm-bound Listeria monocytogenes in a break-cleaning model

Annemarie Gunvig | 6 August 2002 | Project No.: SF: 8088.1

[Show report >](#)

Purpose

The purpose of this study is to assess whether biofilm-bound Listeria monocytogenes is inactivated by break cleaning with IPA-alcohol or P3-steril. At the same time, it is investigated whether adaptation to IPA-alcohol affects the inactivation of L. monocytogenes in connection with break cleaning.

[View more](#)

[View more](#)

OSV, der er mange hit

DMRI Library

Food Safety & Quality

Author(s): Title:

What are you looking for?

DMRI Library is an online repository of scientific reports, research papers, technical documents, and related materials published over the last 30+ years.

DMRI Library aims to facilitate access to historical and contemporary scientific knowledge gathered and generated by the Danish Meat Research Institute over the years for educational, research, and informational purposes.

Opsummering:

[Disclaimer](#)

Flere veje til fremsøgning af rapporter:

- Forfatter, titel, emne ord
- Engelsk og dansk kan anvendes

Resultat:

- Titel, formål, forfatter, årstal, projektnummer
- AI genereret resume/konklusion
- Preview
- Download

Calculator



Danish Technological Institute

[Home](#) [My products](#) [Guide me](#) [Models](#) [Calculators](#) [Documentation](#) [Library](#) [Contact us](#) [Area](#) ▼

Calculators

A collection of calculators that may be of assistance

Choose calculator *

- F-value - canned meat
- Degree hours - sausage fermentation
- Lactate converter
- Acetate converter
- Water activity
- Residual Na-nitrite
- Growth calculator
- K to Na compound converter

Ny på vej: varmedrab

Udvides ved behov

Varmedrab - beregning

- under udarbejdelse/kvalitetstjek

Test area: Models and calculators

Choose model or calculator *

Thermal inactivation

Thermal inactivation

Calculate microbiological inactivation during heat treatment processes.

Input fields

Clear fields

Upload process data here (.xlsx or .xls) * (?)

Drag & Drop your files or Browse

Or input data manually. **

#	Time (min)	Temperature (°C)	
1	0	55	
2	2	58	
3	4	60	
4	20	60	

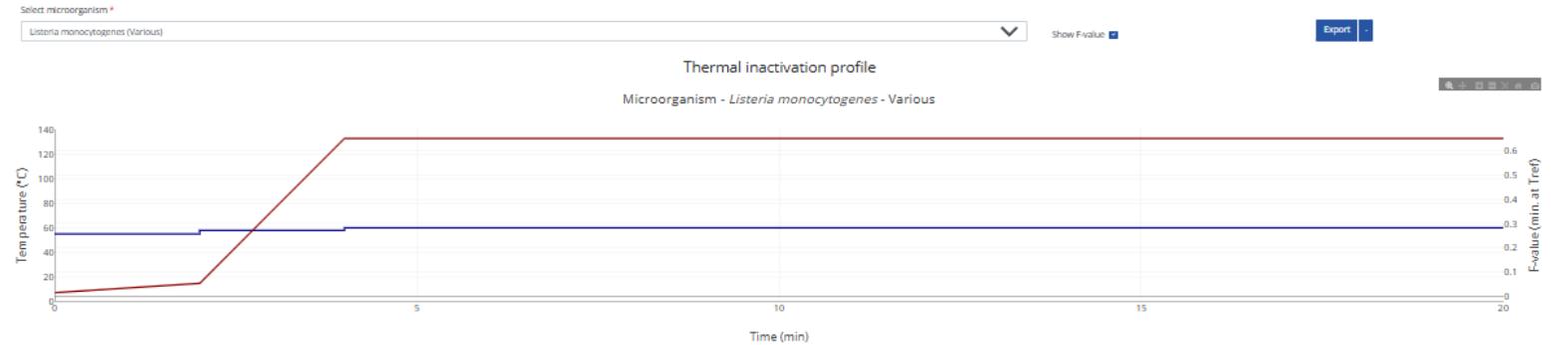
Add row

** Enter the temperature profile starting with the temperature at time 0 and then the measured temperature at each time measured.

Example 1: The effect of a holding time of 2 minutes at 72°C. First line enter 0 minutes and 72°C. Second line enter 2 minutes and 72°C.

Example 2: the effect of different temperature/time periods: 6: 10 minutes at 60°C followed by 2 minutes at 70°C. First line enter 0 minutes and 60°C. Second line enter 10 minutes and 60°C. Third line enter 10 minutes and 70°C, fourth line enter 12 minutes and 70°C.

Run calculations



Inactivation results table

View saved organisms

Microorganism	Grown in	Tref (°C)	z (°C)	Fvalue (min. at Tref)	Dur (mean) (min)	Dur (95% P) (min)	Log red. Dvalue	Log red. Dtime
Bacillus cereus	Various	120,0	12,8	< 0,1	0,042	0,525	< 0,1	< 0,1
Bacillus cereus (heat resistant)	Dairy products	120,0	12,1	< 0,1	3,388	35	< 0,1	< 0,1
Campylobacter spp.	Various	70,0	12,3	2,8	0,110	1,122	25	2,5
Clostridium botulinum ABF	Various	120,0	10,2	< 0,1	0,166	0,479	< 0,1	< 0,1
Clostridium botulinum BCEF	Various	120,0	18,6	< 0,1	0,034	0,851	0,3	< 0,1
Clostridium botulinum G	Various	120,0	34,0	0,3	0,251	0,603	1,3	0,5
Clostridium perfringens (spore)	Various	120,0	16,8	< 0,1	0,302	2,692	< 0,1	< 0,1
Clostridium perfringens (vegetative)	Various	70,0	10,3	1,9	0,380	2,089	5,0	0,9
Cronobacter sakazakii	Various	70,0	6,3	0,4	0,031	0,289	14,4	1,7
Escherichia coli	Various	70,0	10,6	2,0	0,214	3,467	9,6	0,6
Listeria monocytogenes	Various	70,0	7,0	0,6	0,087	0,525	7,5	1,2
Listeria monocytogenes	Salted (10%)	70,0	9,2	1,5	1,514	6,026	1,0	0,2
Salmonella spp.	Various	70,0	9,1	1,4	0,148	3,890	9,6	0,4
Salmonella spp.	Chocolate	70,0	20,4	6,1	447	1,096	< 0,1	< 0,1
Staphylococcus aureus	Various	70,0	8,8	1,3	0,257	2,138	5,0	0,6
Streptococcus pyogenes	Various	70,0	9,2	1,5	0,035	0,708	42	2,1
Vibrio cholerae	Crabmeat	70,0	16,7	4,7	0,562	2,188	8,3	2,1
Vibrio cholerae	Peptone water	70,0	21,8	6,5	0,191	0,331	34	19,8
Vibrio parahaemolyticus	Various	70,0	8,5	1,2	0,006	0,050	196	24
Yersinia enterocolitica	Various	70,0	6,2	0,4	0,016	0,123	26	3,4

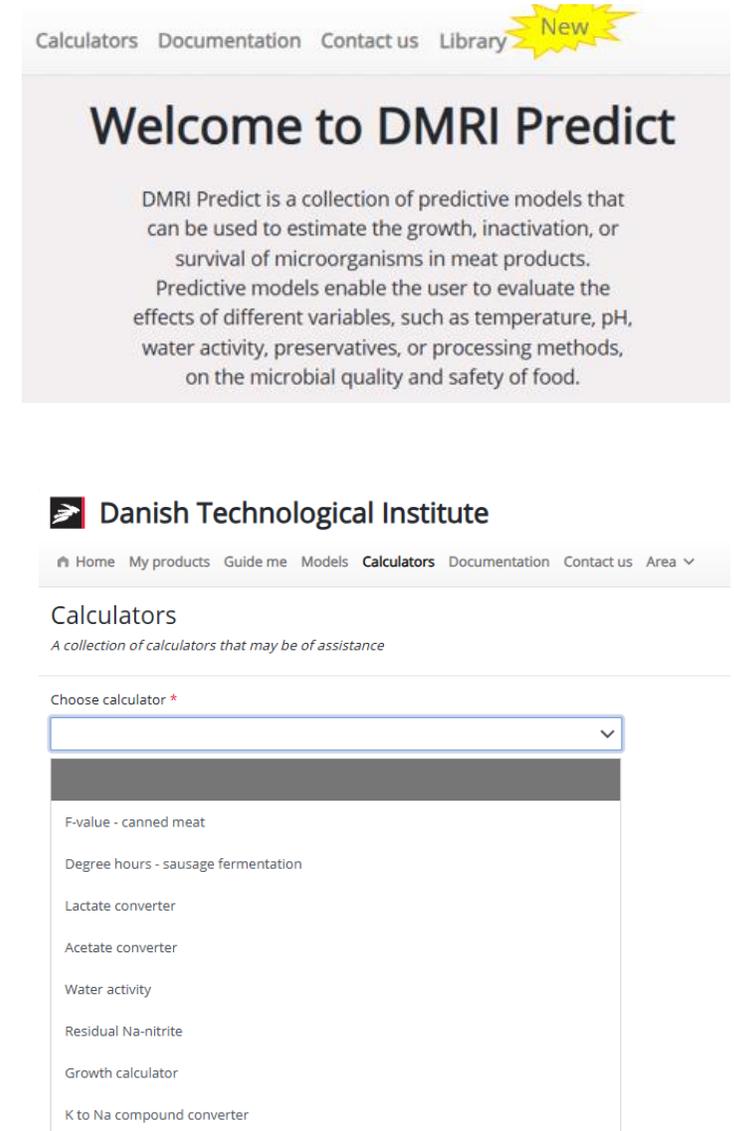
* All reference values are obtained from: Esther D. van Asselt and Marcel H. Zeiselring (2006) A systematic approach to determine global thermal inactivation parameters for various food pathogens. International Journal of Food Microbiology, 107, 1, pp. 73-82.

Library i fremtiden

- Rapporter fra igangværende og nye projekter tilføjes løbende
- "Glemte" rapporter uploades – kontakt os, hvis du savner noget
- Beregningsværktøjer – kontakt os, hvis du savner noget
- Forbedringer – kontakt os hvis du har gode ideer

- Log in via dette link:

<https://apps.teknologisk.dk/dmri-predict/>



The screenshot shows the DMRI Predict website. At the top, there is a navigation bar with links for 'Calculators', 'Documentation', 'Contact us', and 'Library'. The 'Library' link is highlighted with a yellow starburst labeled 'New'. Below the navigation bar, a large heading reads 'Welcome to DMRI Predict'. The main content area contains a paragraph: 'DMRI Predict is a collection of predictive models that can be used to estimate the growth, inactivation, or survival of microorganisms in meat products. Predictive models enable the user to evaluate the effects of different variables, such as temperature, pH, water activity, preservatives, or processing methods, on the microbial quality and safety of food.'

Below this, the 'Danish Technological Institute' logo is visible, followed by a secondary navigation bar with links: 'Home', 'My products', 'Guide me', 'Models', 'Calculators', 'Documentation', 'Contact us', and 'Area'. The 'Calculators' link is active.

The 'Calculators' section has a subtitle: 'A collection of calculators that may be of assistance'. Below this is a dropdown menu labeled 'Choose calculator *'. The dropdown is open, showing a list of calculator options: 'F-value - canned meat', 'Degree hours - sausage fermentation', 'Lactate converter', 'Acetate converter', 'Water activity', 'Residual Na-nitrite', 'Growth calculator', and 'K to Na compound converter'.

Nyt i Predict-pipelinen



Dansk Erhverv

<https://www.danskerhverv.dk/nyheder/september/n...>

De nye grænseværdier for nitrit i kødprodukter fra oktober 2025

sep. 2025 — De danske særregler for varmebehandlede, halv- og helkonserverede kødprodukter falder derfor, og maksimalgrænsen på 150 mg/kg ophæves. I ...

[Forside](#) / [Aktuelt og presse](#) / [Nyheder](#) / [2025](#) / [EU strammer reglerne for listeria i spiseklare fødevarer](#)

EU strammer reglerne for listeria i spiseklare fødevarer

Stigning i infektioner med listeria i EU får Kommissionen til at indføre skrappe krav til producenter af spiseklare fødevarer fra juli 2026.

Senest redigeret den 2. september 2025



Vigtigt at kunne vise at LM ikke overstiger 100 CFU/g i holdbarhedsperioden

- Holdbarhed af kød-konserver ved brug af mindre nitrit (afsluttes 2027)
- Validering af listeria-modellen (nye stammer) (afsluttes 2026)
- Udvidelse af listeria-modellen, til hybridprodukter (afsluttes 2026)
- Udvidelse af listeria-modellen fra 44 dage til 90 dages opbevaring (afsluttes 2028)
- Validering af listeria-modellens egnethed til plantebaserede produkter (afsluttes 2026)

Nyt i Predict-pipelinen

Clostridium botulinum:

- Udvidelse til brug for hybridprodukter (afsluttes 2026)
- Validering i forhold til toksinproduktion (afsluttes 2027)



Advisory Committee on the Microbiological Safety of Food (UK)

"All studies relating to controlling factors for C. botulinum should determine neurotoxin production with potential merit in also monitoring growth"



"For shelf-stable, heat-treated meat and poultry products, the USDA recommends using toxin-producing strains of C. botulinum in challenge studies to validate the safety and shelf-life of the products"

UDLAND 12. aug. 2025 Gem artikel

Broccolikaos i Italien: En død og ni er indlagt efter udbrud

Myndigheder tilbagekalder broccoli efter dødeligt botulismeudbrud i Italien.
Foodtruck i Calabrien mistænkes som kilde



"Specifically, the guidance states: "For products which may pose a risk of C. botulinum toxin formation, challenge tests should be performed with toxin-producing strains of C. botulinum"

Fødevarerikkerheds modeller for kødprodukter



Listeria monocytogenes

Vækst i MA-pakket pålæg

- * 90 dage
- * Hybrid
- * Udbrudsstammer
- * Planter?



Clostridium botulinum

Vækst/ikke vækst i MA-pakket pålæg

- * Vak?
- * Toksin
- * Hybrid



ConFerm

Overlevelse, reduktion, vækst af *Listeria*, *E. coli*, og *Salmonella* under production af fermenteret og modning af spegepølser

- *Hybrid
- * Low salt



Yersinia enterocolitica

Reduktion af *Yersinia* under produktion af salami eller saltning af kød



Safety of dried meat products

Vækst eller reduction af *Listeria*, *E. coli*, og *Salmonella* under produktion af saltede og tørrede kødprodukter



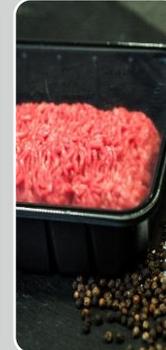
Staphtox predictor

Staphylococcus enterotoksin production og vækst af *Staph. aureus* ved mild varmebehandling eller fermentering af kød

Note:

- Baseret på challenge test
- Mikrobiologiske og kemiske analyser
- Validering
- Udvidelser

Holdbarheds modeller til fersk og frossen kød samt pålæg

									
Cuts of pork	Cuts of beef	Cuts of chicken	Minced pork	Minced beef	Bacon	Processed meat	By-products	Leucostoc	Lactobacillus brevis
Fersk	Fersk	Fersk og marineret	Fersk	Fersk		Varmebehandlet		Varmebehandlet pålæg	Spegepølse
Luft	Vakuum	MAP	MAP	MAP	Vakuum	MAP	Køl eller frost	MAP	MAP
MAP			Hybrid					Ny	Ny
Vakuum									



Note

- Baseret på lagings forsøg under kontrollerede forhold
- Kød fra virksomheder
- Stor grad af naturlig variation (producenter, processer, udskæringer)
- Challenge test
- Mikrobiologiske, sensoriske, og kemiske analyser under lagring

Tak for opmærksomheden

Webinaret er blevet til med finansiel støtte fra
Svineafgiftsfonden



Welcome to DMRI Predict

DMRI Predict is a collection of predictive models that can be used to estimate the growth, inactivation, or survival of microorganisms in meat products. Predictive models enable the user to evaluate the effects of different variables, such as temperature, pH, water activity, preservatives, or processing methods, on the microbial quality and safety of food.



Anette Granly Koch

Faglig leder

Fødevaresikkerhed og Kvalitet

E aglk@teknologisk.dk

M +45 72 20 25 39

www.teknologisk.dk



Gudrun Margret Jónsdóttir

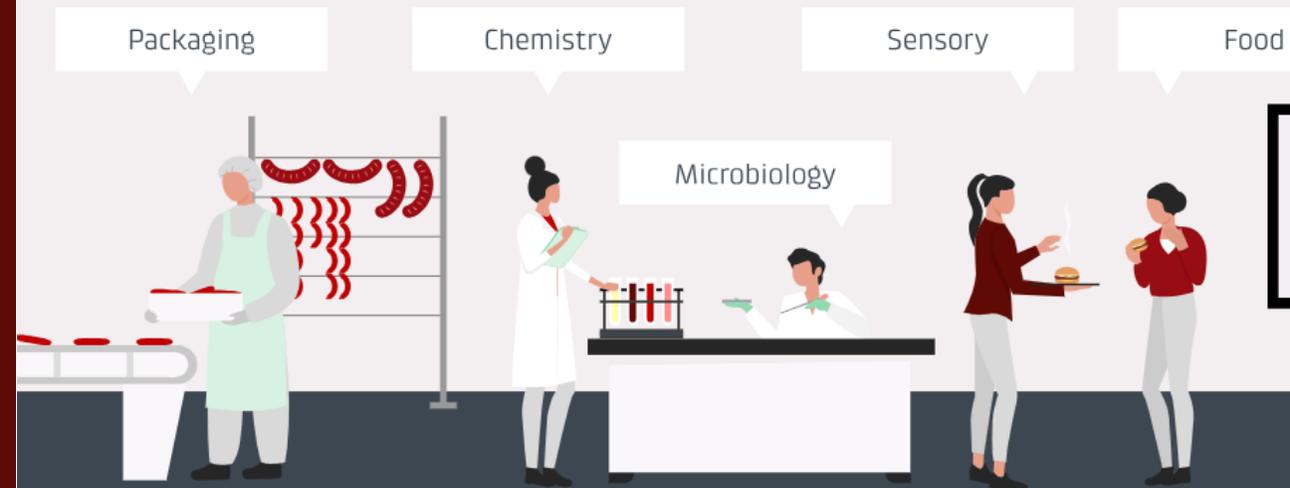
Konsulent

Fødevaresikkerhed og Kvalitet

E gmjr@teknologisk.dk

M +45 72 20 30 35

www.teknologisk.dk



Teknologisk Institut
Fødevarer sikkerhed og kvalitet
Gregersensvej 9, 2630 Taastrup

Spice up your feed with food innovation

Følg os på
LinkedIn



Tilmeld dig
vores
nyhedsbrev





Udsigt til indsigt

- en webinarserie om fødevarer sikkerhed og -kvalitet

Næste webinar

- Tirsdag d. 28. april 2026
- Ohmsk opvarmning – er det (stadig) hot?
- Christian Vestergaard
- Tilmelding via kursussiden

På gensyn!