

FINAL CIRCULAR

35th International Congress
of Meat Science and Technology



August 20 - 25

1989

Copenhagen

Denmark

CONGRESS ORGANIZATION

CONGRESS CHAIRMAN

Mr. K.B. Madsen

DELEGATES PROGRAMME

Mr. Børge Sørensen

SOCIAL PROGRAMME and EXCURSIONS

Mr. W. Klinth Jensen

NON DELEGATES PROGRAMME

Mrs. Anni Zeuthen

INFORMATION AND SECRETARIAT

Mr. Mogens Lange

ADVISORY COMMITTEE

Mrs. Karen Jensen

Mr. Mogens Jul

Mr. Peter Zeuthen

Mr. J. Wismer Petersen

Host Organization:

Danish Meat Research Institute



INVITATION

It is a great pleasure for the organizing Committee and for the Danish Meat Research Institute to invite meat scientists and technologists from all over the world to attend the 35th International Congress of Meat Science and Technology 1989 in Copenhagen.

It has been the intention of the organizers to create a congress programme which

- * emphasizes applied research and technology
- * offers a menu of alternative seminars to suit specific interests
- * deals with the future needs and challenges within meat research and development.

In doing so we hope to achieve a congress, which will be equally attractive to R&D representatives from universities and institutes, meat plants and suppliers' companies.

Through a non delegates programme and an excursion day we also take pleasure in presenting some of the exciting attractions in Copenhagen and its vicinity.

Looking forward to seeing you in Copenhagen in August 1989.

K.B. Madsen
Congress chairman
Mg. Director, Danish Meat Research Institute



GENERAL INFORMATION



CONGRESS SITE

The congress will be held at:

The SAS Scandinavia Hotel
Amager Boulevard 70
DK-2300 Copenhagen S.

The position is indicated on the map on page 23.

Telephone: +45 1 11 23 24
Telefax: +45 1 57 01 93
Telex: 31330

REGISTRATION AND INFORMATION DESK

The desk will be located at the 1st floor of the SAS Scandinavia Hotel.
The desk will be open

Sunday Aug. 20 15.00 – 20.00 h
Following days 8.00 – 17.30 h
Friday Aug. 25 8.00 – 15.00 h



CONGRESS SECRETARIAT

All further information concerning the congress programme, accommodation and pre and post congress tours can be obtained from the congress secretariat at

The ICoMST Secretariat
(c/o Mr. B. Sørensen)
The Danish Meat Research Institute
Maglegårdsvej 2, P.O. Box 57
DK-4000 Roskilde
Denmark

Telephone: +45 2 36 12 00
Telex: 43241
Telefax: +45 2 36 48 36



CONGRESS LANGUAGE

The congress language will be English.

TRAVEL AGENCY

Before the congress any enquiries about travel arrangements should be addressed to the congress secretariat.

During the congress all necessary assistance with travel arrangements will be given to the delegates by the secretariat and the SAS travel agency in the Scandinavia Hotel.



REGISTRATION FEES

	Before May 1, 1989	After May 1, 1989
Delegates		
(full week)	DKK 3000	DKK 3500
(partial, per day)	DKK 800	DKK 1000
Non delegates and Students		
(full week)	DKK 1500	DKK 1750
(partial, per day)	DKK 400	DKK 500

The early deadline (May 1, 1989) for payment of minimum registration fee is caused by a 90 day time limit for free alterations in hotel room reservations.

The full registration fee includes:

	delegates	non-delegates
Informal welcome (Sunday)	X	X
Opening ceremony (Monday)	X	-
Seminars and sessions	X	-
Lunches Monday to Friday	X	X
Welcome at City Hall (Monday)	X	X
Excursion day (Wednesday)	X	X
Coffee during breaks	X	-
Congress dinner (Thursday)	X	X
Non-delegates programme	-	X
Closing ceremony	X	X
1 copy of published proceedings	X	-
1 copy of congress programme	X	X

Partial registration fee does not include evening arrangements, (to be paid separately).

Payment in DKK to be addressed to Andelsbanken, Danebank, Roskilde, Denmark, reg.no. 5595, account no 20230-6 with reference to ICoMST 1989.

Additional sets of abstracts and proceedings will be available for DKK 500.

CANCELLATION

If a confirmed registration is cancelled prior to July 1, 1989 an 80% refund will be made. If cancelled after July 1, the refund is 40%.



ACCOMMODATION

For hotel locations see Copenhagen city map on page 23.

Various types of accommodation have been reserved for delegates and accompanying persons for the nights from August 20 to August 25.

The **SAS Scandinavia Hotel**, the congress venue, is an international luxury hotel situated about 1½ km from the city centre (the Central Railway Station, Town Hall Square and Tivoli Gardens).

The **Ladbroke Palace Hotel** is a first class hotel located at the Town Hall Square approximately 15 minutes walking distance from the congress venue.

The **Scandic Hotel**, Høje Tåstrup is a modern, first class hotel situated in the Copenhagen suburb, Høje Tåstrup, 200 m from metro station with approximately 20 minutes train ride to Copenhagen Central Station.

The **Ladbroke Komfort Hotel** is a first class tourist hotel situated in the city centre approximately 15 minutes walking distance from the congress venue.

The **Hotel Centrum** is an economy hotel situated near the city centre approximately 20 minutes walking distance from the congress venue.

The **Hotel Nebo** is an economy hotel situated near the city centre approximately 20 minutes walking distance from the congress venue.

All rates given below are per night including continental breakfast and tax.

	Single	Double/twin
1. SAS Scandinavia Hotel	DKK 1040	DKK 1260
2. Ladbroke Palace Hotel	DKK 600	DKK 910
3. Scandic Hotel, Høje Tåstrup	DKK 460	DKK 560
4. Ladbroke Komfort Hotel	DKK 500	DKK 740
5. Hotel Centrum	DKK 300*	
6. Hotel Nebo	DKK 260*	DKK 450*

* = Private bath/shower is not included.



Please indicate your preferred accommodation on the registration form in the order 1 to 6.

A deposit of DKK 1000 per room must be paid when the hotel is booked. This amount will be fully credited by the hotel when the hotel bill is settled.

Hotels in Copenhagen will be very full in August. In your own interest please submit your registration as early as possible.

WEATHER AND DRESS

The average temperature in Denmark in August is 16°C, in September 13°C. However, the weather in Denmark is rather unpredictable, therefore additional warm and rainproof clothing for outdoor activities is recommended.

Formal dress is not required for any of the social activities.

TIME

From April to September the time in Denmark is two hours ahead of GMT. (In winter one hour).

CURRENCY AND PAYMENT

Exchange of foreign currency is possible in any bank. – Usual opening hours are: 9:30 – 16:00, Thursday 9:30 – 18:00. Saturday and Sunday closed.

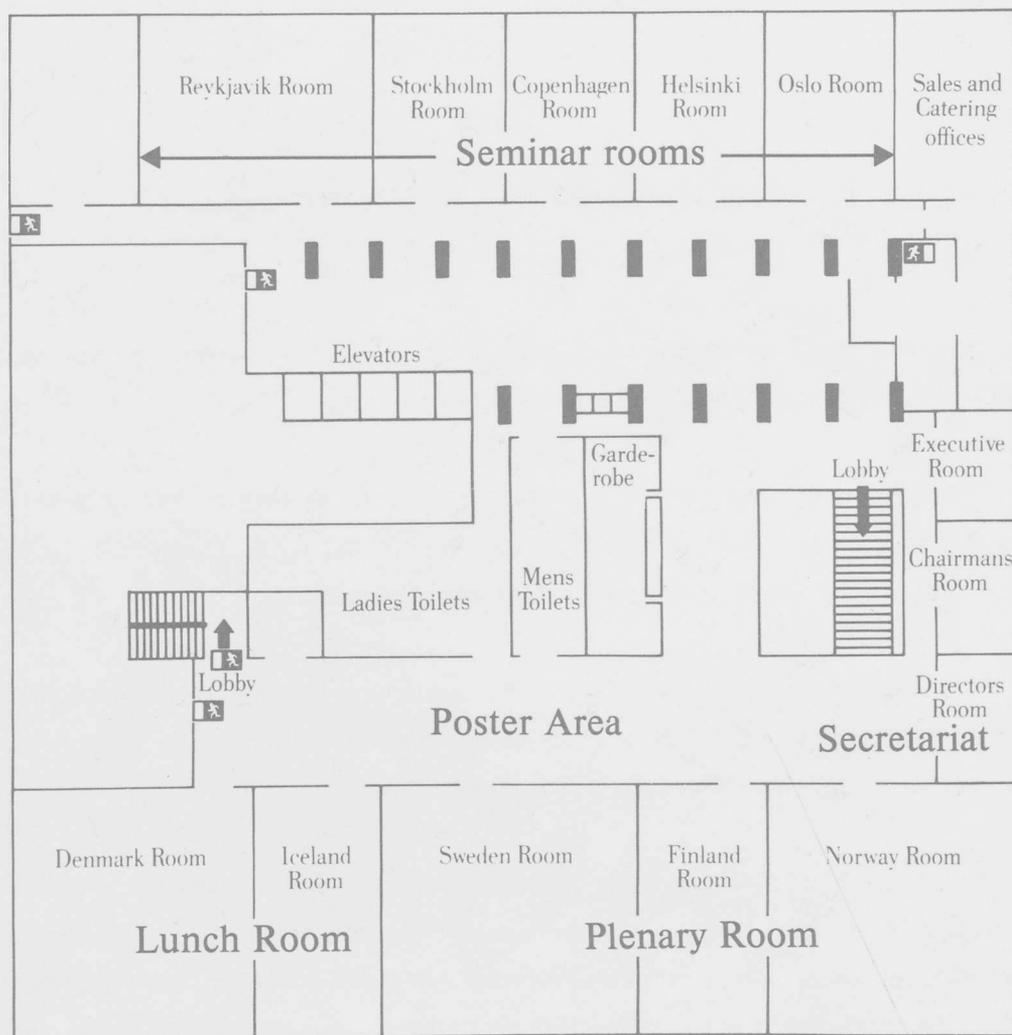
Some of the hotels will have an exchange service.

All major credit cards may be used in Denmark.

TRANSPORTATION

Information about public transportation between the congress hotel and other hotels will be sent to everybody registered in advance of the congress.

CONGRESS FACILITIES



The congress area is located at the 1st floor of the SAS Scandinavia Hotel. Coffee during breaks is served in the poster area.

LIABILITY AND INSURANCE

Participants are encouraged to ensure against medical expenses, accidents and losses, as the organizers can take no responsibilities in these fields.



CONGRESS PROGRAMME

LAY-OUT OF THE CONGRESS PROGRAMME

The congress programme will consist of six main topics mentioned overleaf. Each of them will be dealt with in the following ways:

- Written contributions will be presented in a **poster session** giving a clear presentation of the subject, the purpose of the investigations, their results and their practical significance, (see page 15 for further instructions).
- The poster session will be followed by a **plenary session** where an invited speaker will deal with the future R&D needs and challenges within important areas of the main topic, followed by a plenary discussion.
- Within each of the six main topics specific subjects of current interest are dealt with in **mini seminars** in addition to the poster sessions. In order to avoid that subjects within one main topic coincide, the mini seminars are arranged as shown in the total congress programme on page 12 and 13. - The seminars are primarily for discussion of future activities after a short "state of the art" presentation from selected delegates.



SCIENTIFIC AND TECHNOLOGICAL TOPICS

1. On line methods for meat and carcass quality assessment

Rapid methods for measuring water, fat, protein, collagen, water binding capacity, meat colour etc. – classification methods, equipment and systems for objective description of carcasses and cuts.

2. Microbiology, hygiene, keepability and food safety

Accelerated microbiological analyses and identification – specific microorganisms and their role in meat products – sanitation – microbiological quality assurance – factors influencing keepability and safety – packaging and microbiology – HACCP.

3. Analytical methods

Chemical and physical laboratory methods – sensory evaluations – new measuring techniques.

4. Information technology in slaughtering and meat processing

Use of electronic data collection and –processing in planning, process, production and quality controls – automation of meat handling operations – mechanisation/automation of heavy manual operations.

5. New production technologies and product development

Curing technology – extrusion technology – use of enzymes – fermentation – reformed products – nutritionally modified products. etc.

6. Muscle biology and meat biochemistry

Meat quality characteristics – post mortem processes and meat quality – muscle fibers – PSE/DFD – cold shortening – factors influencing meat quality.

Sunday Aug. 20

Monday Aug. 21

Tuesday Aug. 22

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Registration at Congress Hotel

Informal reception at Congress Hotel

Registration continued

Opening of Congress
Laurits Tørnæs,
Minister of Agriculture

Strategies of the Danish Meat Industry and their relation to future research and development.
A. Toft Fensvig, director.
Danish Bacon & Meat Council.

Coffee break

A food retailers requirements to future meat and meat products.
Flemming Lindeløv, director
Coop Denmark

Lunch

topic 2, seminar 1.
Rapid microbiological methods.

3.1 Species identification of meat and other proteins.

Posters, topic 1.

Coffee break

Plenary session, topic 1.
Utilization of on line methods for measuring quality parameters in carcasses. Future possibilities and challenges.

Civic reception at Copenhagen Town Hall.

1.1 Classification Systems for the assessment of carcass meat content and confirmation.

3.2 Applications of mass spectrometry.

Posters, topic 2.

Coffee break

Plenary session, topic 2.
»Newer« pathogenic microorganisms in meat and meat products.

Lunch

1.2 On line methods for measuring meat quality parameters on carcasses and cuts.

2.2 Time-temperature surveys in the chill chain.

Posters, topic 3.

Coffee break

Plenary session, topic 3.
Analytical determination of residues.

CROSS PROGRAMME

Wednesday Aug. 23

Thursday Aug. 24

Friday Aug. 25

Excursion to a meat plant

Excursion to the Danish Meat Research Institute, to The Cathedral, Roskilde and to the Viking Ship Museum, Roskilde.

Picnic Lunch

Excursion to the Danish Meat Research Institute, to The Cathedral, Roskilde and to the Viking Ship Museum, Roskilde.

Excursion to a meat plant

Informal get together
(in Copenhagen)

6.1
Early detection of quality deviations in meat.

5.1
Meat and nutrition.

Posters, topic 4.

Coffee break

Plenary session, topic 4.
Computer Integrated Manufacturing in the meat industry..

Lunch

4.1
Computer based meat inspection systems.

6.2
Pre slaughter treatment in relation to animal welfare and quality parameters.

Posters, topic 5

Coffee break

Plenary session, topic 5.
R&D challenges in emerging meat processing technologies.

Dinner at Congress Hotel

4.2
Sensors and measuring technology for automation in slaughter and meat processing.

5.2
(Future) aspects in the use of starter cultures in meat products.

Posters, topic 6.

Coffee break

Plenary session, topic 6.
Controlling post mortem processes to optimize meat quality.

Closing of congress

Lunch & farewell

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REQUIREMENTS FOR SCIENTIFIC CONTRIBUTIONS

Participants are invited to submit scientific contributions and to indicate which session they consider most appropriate for their paper. The organizing committee reserves the right to allocate contributions to other sessions and to change the programme and schedules if considered necessary. At least one of the authors of a paper must be a registered participant in the congress.

INFORMATION FOR AUTHORS

All scientific contributions must be typed in English on the paper provided. Please follow the model and instructions given in the enclosed example. Additional sheets may be obtained from the congress secretariat.

Authors are requested to use either word processing or an electric typewriter with an open typeface and a new black ribbon. Single spacing should be used throughout and only originals should be submitted to the organizers. Papers must be typed on one side only. They must not be folded or creased and should be mailed flat provided with protective cardboard. Telefax submission of materials for printing is not acceptable.

ABSTRACTS

Abstracts should be typed in a vertical format in two columns and not exceeding more than the upper half of the sheet. Abstracts must include details of the objective, experimental methods, principal results and conclusions.

Abstracts which in the opinion of the organizers lack sufficient detail will be returned to authors for amendment. Abstracts must be received by the organizers not later than March 1, 1989. To facilitate correspondence please indicate your telex or telefax number, when submitting the abstract.

FULL PAPERS

Each paper should be typed in a vertical format exceeding not more than 8 pages for direct printing in the proceedings. Typing can be up to but not beyond the blue lines that form the columns. Titles and authors' names should be written in capital letters only. Institution(s) and address(es) are to be written below and typed normally. Papers must include the following headlines: INTRODUCTION, MATERIALS AND METHODS, RESULTS, CONCLUSIONS and REFERENCES (as shown in the example included).

Only black and white photographs can be reproduced. All illustrations, diagrams and graphs must be furnished with a legend and the intercolumnar space may also be used for positioning these elements. Please supply original material to ensure adequate reproduction. Full papers must be received by the organizers not later than May 1, 1989. Papers which in the opinion of the organizers lack sufficient detail will be returned to authors for amendment.



Send all papers to:

Danish Meat Research Institute
c/o Mr. Mogens Lange
Maglegårdsvej 2, P.O. Box 57
DK-4000 Roskilde
Denmark.

POSTERS

All papers must also be presented as posters. Boards with an available space of 90 cm wide by 160 cm high will be at the disposal of the authors, provided with the title of the paper and the author name(s). Posters must show the objectives, experimental methods, principal results and conclusions. Letters and figures must be sufficiently large to be easily readable from at least two meters. Pins and adhesive tape will be provided by the organisers.

A poster presentation must provide the spectator with the essential information in a simplified and clear manner. Therefore, use graphs and illustrations and reduce the written text to the minimum necessary. – A poster presentation championship with appropriate rewards will be established!

During the poster sessions, authors must be present to discuss their work.

VISUAL AIDS

Projectors suitable for 5x5 cm slides and overhead projectors will be available. In both cases letters and figures must be sufficiently large for clear projection.

Slides and overheads should be produced according to the following rules: As a maximum each slide and overhead should not exceed eight lines. The letters on top copies and overheads should have a size not smaller than 8 mm. Headings should have a size of at least 10 mm. The distance between the lines should be at least 12 mm. Figures and letters smaller than 8 mm will not be readable from the back rows of the plenary room! Please make sure that all slides have a horizontal format and as far as overheads are concerned please avoid placing letters and figures on the lowest 6–10 cm of the transparency. Slides as well as overheads should be submitted to the secretariat the day before the session.

For special requirements such as video machines please contact the Congress secretariat well before the Congress.



SOCIAL ACTIVITIES

Sunday, August 20

Get-together party at the Congress Hotel (18:00 – 20:00 h).

Monday, August 21

Civic reception at the Copenhagen Town Hall (18:30 – 20:00 h). This leaves you time for a visit to the nearby Tivoli Gardens.

Tuesday, August 22

Evening free for private arrangements.

Wednesday, August 23

Informal get-together in Copenhagen at the end of the excursion day (18:00 – 20:00 h).

Thursday, August 24

Dinner at the Congress Hotel (18:30 h).

TECHNICAL AND CULTURAL EXCURSION

The complete day **Wednesday August 23** will be devoted to a technical and cultural tour.

Buses will collect participants at the SAS Scandinavia Hotel, the venue for the congress.

The tour will have two main goals:

- A tour to the large and modern STEFF-HOULBERG pig slaughterhouse and meat processing plant in **Ringsted**.
- The cathedral city of **Roskilde** with visits to the Danish Meat Research Institute, to Roskilde Cathedral – the burial place for Danish kings and queens – and to the Viking Ship Museum.

Half of the participants will spend the morning in Ringsted and the afternoon in Roskilde – the other half will do the tour in reverse order. All participants will meet mid-day near Roskilde for a picnic lunch – hopefully in warm sunny weather.

In the evening all participants will meet again – this time in **Copenhagen** for an informal get together over a light meal, tankards of beer and maybe a singsong.



NON DELEGATES PROGRAMME

Monday, August 21

City tour of Copenhagen including boat trip on the canals to The Little Mermaid.

Visit to Rosenborg Castle with the crown jewels, the wine cellar and the great hall with two silver lions.

Tuesday, August 22

North Zealand tour. Visit to Louisiana, famous museum of modern art.-

Stop at Helsingør (Elsinore) with Kronborg Castle (Hamlet). -

Passing Fredensborg Castle, The Queens Summer residence. -

Visit to Frederiksborg Castle, Hillerød.

Wednesday, August 23

Excursion with delegates.

Thursday, August 24

Visit to the Carlsberg Brewery.

Visit to the Royal Porcelain Factory.

Friday, August 25

Time at your own disposal.

Lunch with delegates at the congress hotel.

SUPPLIERS' FAIR

The organizers hope to see many suppliers' R&D representatives registered as congress participants. The submission of papers is open to everybody registered, provided it adds valuable new R&D experience.

The floor space available at the congress hotel does not permit a products exhibition. Suppliers may, however, by request on the registration form get a poster stand at their disposal for information about own products and services. Board area available is 90 x 160 cm, and the price is DKK 400 per day.



PRE CONGRESS TOURS

A) Jutland tour – 5 days /4 nights

This coach tour gives an opportunity to experience the varied countryside of the Jutland peninsula from the northern tip at Skagen – a favorite haunt for Danish painters – to the ancient fortifications near the German border. The participants will visit a wide range of historic and cultural sights and a number of towns.

Tuesday, August 15

Start from Copenhagen. To southern Jutland crossing Zealand and Funen. Overnight accommodation in Vejle.

Wednesday August 16

Tour of southern Jutland. Overnight accommodation in Vejle.

Thursday August 17

Tour of mid Jutland. Overnight accommodation in Ålborg.

Friday August 18

Tour of north Jutland. Overnight accommodation in Ålborg.

Saturday August 19

Tour of eastern Jutland. Return to Copenhagen.



DKK 3500 per person in single room.

DKK 3100 per person in shared double/twin room.

Tour price includes transport incl. ferries, entry fees to sights, hotel accommodation and all meals from lunch Tuesday to lunch Saturday. Beverages are not included.

Please indicate on registration form if you require hotel reservation in Copenhagen for the nights of August 14 and 19.



B) Denmark tour – 4 days /3 nights

This coach tour gives an impression of Denmark's past and present visiting Zealand, Funen and eastern/mid Jutland.

Wednesday August 16

Departure from Copenhagen. Visits in western Zealand and northern Funen. Overnight accommodation in Odense.

Thursday August 17

Odense with Hans Christian Andersen museum. East Jutland. Overnight accommodation in Brædstrup.

Friday August 18

Mid Jutland tour. Overnight accommodation in Brædstrup.

Saturday August 19

East Jutland and south Funen. Return to Copenhagen.

DKK 2450 per person in single room
DKK 2150 per person in shared double/twin room.



Tour price includes transport incl. ferries, entry fees to sights, hotel accommodation and all meals from lunch Wednesday to lunch Saturday. Beverages are not included. Please indicate on registration form if you require hotel reservation in Copenhagen for the nights of August 15 and 19.

POST CONGRESS TOUR

C) Technical tour to meat plants in Jutland – 4 days/3 nights.

This tour will give an opportunity to visit modern Danish slaughterhouses and meat plants. Tourist sights on the route will also be visited.

The following plants will be visited:

JAKA's meat processing plant in Brabrand near Aarhus, producing e.g. cooked ham and picnics.

TULIP's ultra-modern new plant Vejle Nord, producing a range of comminuted meat products.

SYD's cattle slaughterhouse in Bylderup Bov.

SYD's pig slaughterhouse in Blans near Sønderborg.

Grindsted Product head office and R&D department in Brabrand near Aarhus.



Sunday August 27

Departure from Copenhagen. Overnight accommodation in Brabrand near Aarhus.

Monday August 28

Visits to JAKA and Grindsted Products. Overnight accommodation in Vejle.

Tuesday August 29

Visit to TULIP's Vejle Nord plant. Overnight accommodation in Rudbøl near German border.

Wednesday August 30

Visits to SYD's plants in Bylderup Bov and Blans. Return to Copenhagen.

DKK 2450 per person in single room.

DKK 2150 per person in shared double/twin room.

Tour price includes transport incl. ferries, entry fees to sights, hotel accommodation and all meals from lunch Sunday to lunch Wednesday. Beverages are not included.

Please indicate on registration form on page 22 if you require hotel reservation in Copenhagen for the nights of August 26 and 30.



Please type or use capital letters

CONGRESS REGISTRATION FORM

Delegate

Last name _____ First name(s) _____

Title _____

Institution _____

Postal address _____

Phone _____ Telex _____ Telefax _____

Accompanying person(s)

Last name _____ First name(s) _____

Papers

I will be submitting a paper to the session indicated

1	2	3	4	5	6
<input type="checkbox"/>					

Title _____

Registration fee

	Full registration:		Partial registration date(s) _____		TOTAL
	Before May 1	After May 1	Before May 1	After May 1	
Delegates	___ x DKK 3000	___ x DKK 3500	___ days x DKK 800	___ days x DKK 1000	DKK
Non delegates	___ x DKK 1500	___ x DKK 1750	___ days x DKK 400	___ days x DKK 500	DKK
Students	___ x DKK 1500	___ x DKK 1750	___ days x DKK 400	___ days x DKK 500	DKK
Registration fee total					DKK

Accommodation

For reservation of hotel accommodation, please indicate preferences 1-6. - Room rates are per night (incl. continental breakfast).

	Single		Double/twin	
SAS Scandinavia	DKK 1040	<input type="checkbox"/>	DKK 1260	<input type="checkbox"/>
Ladbroke Palace	DKK 600	<input type="checkbox"/>	DKK 910	<input type="checkbox"/>
Scandic, Høje Tåstrup	DKK 460	<input type="checkbox"/>	DKK 560	<input type="checkbox"/>
Ladbroke Komfort	DKK 500	<input type="checkbox"/>	DKK 740	<input type="checkbox"/>
Centrum	DKK 300	<input type="checkbox"/>	-	<input checked="" type="checkbox"/>
Nebo	DKK 260	<input type="checkbox"/>	DKK 450	<input type="checkbox"/>

Date of arrival _____ Date of departure _____ Comments/further requirements _____

Accommodation deposit (DKK 1000)

Pre/Post Congress tours

Deposit DKK 300 per person per tour

Suppliers posters

Date(s) _____ days x DKK 400

Total amount to be transferred to Andelsbanken, Danebank, Roskilde, Denmark, reg.no. 5595, account no. 20230-6, with reference to ICOMST 1989.

Grand total

Date: _____ Signature _____

Please mail this registration form to Danish Meat Research Institute, Maglegaardsvej 2, P.O.Box 57, 4000 Roskilde, DENMARK

Phone: +45 2 36 12 00, Telex: 43 241, Telefax: +45 2 36 48 36

TRAVEL REGISTRATION FORM FOR PRE/POST CONGRESS TOURS

Please type or use capital letters

Delegate

Last name _____ First name(s) _____

Title _____

Institution _____

Postal address _____

Phone _____ Telex _____ Telefax _____

Accompanying person(s)

Last name _____ First name(s) _____

Pre Congress tours

Tour A <i>Jutland tour August 15-19</i>	No of persons	Accommodation in Copenhagen before and after tour? Nights between
A1 single DKK 3500	<input type="checkbox"/>	_/_ _/_
A2 double DKK 3100	<input type="checkbox"/>	_/_ _/_
Tour B <i>Denmark tour August 16-19</i>	No of persons	Accommodation in Copenhagen before and after tour? Nights between
B1 single DKK 2450	<input type="checkbox"/>	_/_ _/_
B2 double DKK 2150	<input type="checkbox"/>	_/_ _/_

Post Congress tour

Tour C <i>Technical tour August 27-30</i>		
C1 single DKK 2450	<input type="checkbox"/>	_/_ _/_
C2 double DKK 2150	<input type="checkbox"/>	_/_ _/_

Payment

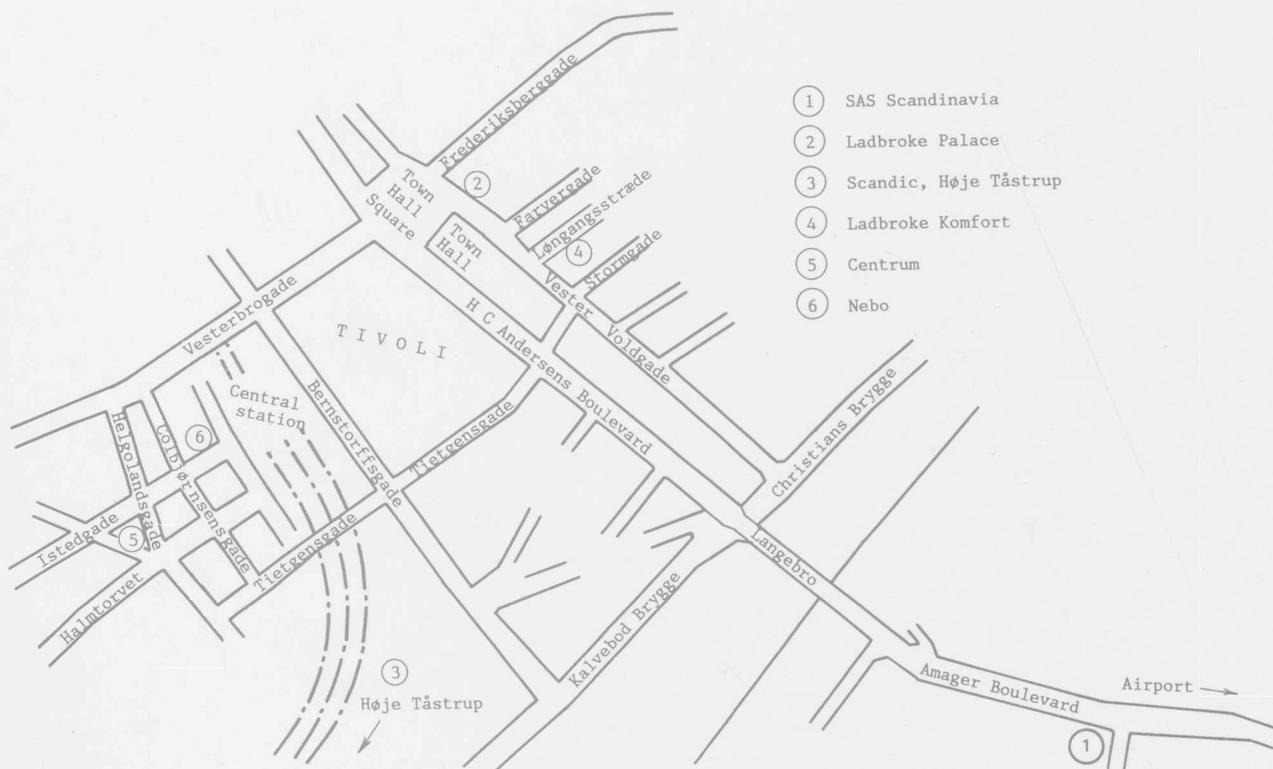
A deposit of DKK 300 per person per tour must be paid together with congress registration fee (prior to May 1 1989). Remaining tour costs must be paid before July 1 (invoice and instructions will be sent to participants).

Date: _____ Signature: _____

To be mailed together with congress registration form to:

Danish Meat Research Institute, Maglegaardsvej 2, P.O. Box 57, DK 4000 Roskilde, DENMARK
Phone: +45 2 36 12 00, Telex: 43 241, Telefax: +45 2 36 48 36

MAP OF CENTRAL COPENHAGEN



IMPORTANT DATES

March 1, 1989. Latest date for receipt of abstracts.

May 1, 1989. Latest date for:

- registration at reduced congress fee
- booking pre/post congress tours
- receipt of full papers.

July 1, 1989. Latest date for full payment for pre/post congress tours.

Danish Meat Research Institute · 2, Maglegårdsvej · DK-4000 Roskilde · Denmark
Tlf. + 45 2 36 12 00 · Fax + 45 2 36 48 36 · Telex 43241

Abstract

REQUIREMENTS FOR SCIENTIFIC CONTRIBUTIONS

N.N.

Danish Meat Research Institute, Maglegårdsvej 2,
DK 4000 Roskilde, Denmark

INFORMATION FOR AUTHORS

This document is intended to serve as a model for abstracts. All scientific contributions must be typed on the forms provided. Authors are requested to compile with the following recommendations when typing their abstracts and papers, in order to ensure the uniformity of contributions. Single spacing and 12 characters per inch should be used throughout. There are two columns on each form. Both columns have space for 44 characters per line with an intercolumnar space of 8 characters. A maximum of 29 lines may be typed on each form. Text may be inserted up to but not beyond the blue lines. Authors are requested either to use an electric typewriter with an open typeface and a new black ribbon or word processing.

It is important that the originals are submitted

to the organizers. The pages must not be folded or creased and should be mailed flat in protective cardboard. All contributions are to be written in English only. Headings and names of authors should be written in capital letters. The names of institutes and the addresses should not be in capital letters.

REQUIREMENTS FOR ABSTRACTS

Abstracts should be typed in vertical format on one of the enclosed "Abstract" forms and must not exceed more than the upper half of the sheet. All the abstracts will be compiled into a document which will be sent to the delegates before the congress. Photographs cannot be accepted for publication with abstracts. Abstracts must include details of the objective, experimental methods, principal results and conclusions. Abstracts which in the opinion of the organizers lack sufficient detail will be returned to the authors for amendment. Abstracts must be received by the organizers not later than March 1, 1989. Please indicate your telex or telefax number, when submitting the abstract.

Full Paper (must not exceed 8 pages)

INFLUENCE OF DIFFERENT CHILLING

PROCEDURES ON THE EATING QUALITY OF PORK CHOPS

PATRICIA BARTON-GADE,
CAMILLA BEJERHOLM and UFFE BORUP

Danish Meat Research Institute, Maglegårdsvej 2,
DK 4000 Roskilde, Denmark

INTRODUCTION

Some preliminary work on eating quality in pork chops seemed to show that there were differences between Danish abattoirs with respect to tenderness, differences which were not due to variations in water holding capacity or intramuscular fat content. Further work confirmed this and showed moreover that variations in tenderness along the longissimus dorsi muscle were related to temperature differences in the meat just after the carcasses left the chilling tunnel. Thus, chilling conditions seemed to be indicated.

MATERIALS AND METHODS

The investigation was carried out in four factories with different chilling conditions - an extremely effective, a long but medium chilling, an average effective chilling and a traditional batch chilling:

RESULTS

The results of the analysis of variance are shown in Table 1 and some interactions in Table 2. Factory, pH1/intramuscular fat group and measuring point all affected taste characteristics in pork chops. There was only one significant interaction (factory x pH1/intramuscular fat content for flavour).

Influence of factory

Factory 1 had a much poorer eating quality than the others with on average an unacceptable eating quality, mainly as a result of tougher meat. Factory 3 had the best eating quality with factory 2 and 4 intermediate. The percentage distribution in good, acceptable and unacceptable eating quality confirmed the average figures:

	% chops with		
	unaccept.	accept.	good
Factory 1	57	28	16
Factory 2	12	38	50
Factory 3	9	26	65
Factory 4	11	42	47

57% of the chops from factory 1 had an unacceptable quality and only 16% a good quality. For factory 3 only 9% were unacceptable and 65% had a good eating quality. There were some differences between factories with respect to slaughter line measurements and water holding capacity/pH2-value, but these differences could not explain the results for eating quality. However, shear force values were higher and sarcomere lengths shorter for pigs from factory 1 than from the other factories. The results imply therefore that cold shortening has occurred on factory 1.

CONCLUSION

The results of this experiment have shown that cold shortening can occur in intact pig carcasses, if chilling conditions are sufficiently severe - as seems to be the case on factory 1. The higher the pH1-value and the lower the intramuscular fat content (i.e. the leaner the pig), the more severe the effect. The portions of muscle most exposed to the chilling effect are most affected.

The differences between the temperature profiles in factories 1 and 3 with the poorest and best eating quality respectively was not very large, when the differences in tenderness are taken into account, although the latter correspond to differences in shear force values and sarcomere lengths. However, the process time in the tunnel is different - 47 mins. for factory 1 as against 60 mins. for factory 3. In addition, there are differences in the ventilation system. The ventilators are further away from the carcasses in factory 3, so that the air stream is uniform without large variations in velocity. On factory 1 the air stream is concentrated with speeds of 12-15 m/s immediately under the ventilators falling to zero outside the air stream itself. The reason for cold-shortening on factory 1 but not factory 3 are probably to be found these differences in process conditions.

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