

## Welcome to the first edition of Q-PorkChains Newsletter

The Q-PorkChains Newsletter is published biannually on the public project homepage - [www.qpork.org](http://www.qpork.org) - where you can sign up for receiving the newsletters via email. The objective of the Newsletter is to disseminate news and new knowledge in the field of pork production obtained from the Q-PorkChains project to stakeholders at all levels. The newsletter is divided into different sections specifically directed towards different target groups, i.e. Pig production, Industry, Consumer, Teaching & training and Science.

## Project background

Quality of pork and pork products is a complex and dynamic area. It involves the total production chain from fork-to-farm with a variety of interacting aspects related to consumer and citizen demands and producers for economic and environmental sustainability. The challenge is to increase the production of high quality products, and to make the consumers aware, that the price is increased for meat products of high quality from pigs produced in sustainable production systems.



Q-PorkChains focuses on the total production chain from farm-to-fork. The ultimate goal is to develop and implement new innovative methods to improve and control the quality of pork. If the consumers do not have the willingness to pay for the extra production costs, it is a challenge to convince the primary producers that they must invest in order to produce higher quality products.

Project coordinator of Q-PorkChains Prof. Anders H. Karlsson, University of Copenhagen, Faculty of Life Sciences:

- Consumers are becoming wealthier and more sophisticated than previous. It is no longer enough only to consume food in order to cover basic needs. The product should contribute with other properties such as convenience, eating quality and healthiness. It appears that

the consumers are capable of and willing to pay extra for these properties, Anders H. Karlsson says.

Anders H. Karlsson





# About Q-PorkChains

Q-PorkChains is an integrated project under the EU's sixth framework programme. The full title of the project is "Improving quality of pork and pork products for the consumer: Development of innovative, integrated, and sustainable food production chains of high quality pork products matching consumer demands". The overall aim of Q-PorkChains is to develop high quality pork products in sustainable production systems with low environmental impact.

Q-PorkChains was initiated through collaboration between Faculty of Agricultural Sciences at University of Aarhus and Faculty of Life Sciences at University of Copenhagen. The project now comprise 51 partners from 19 different countries and includes some of the most important research institutions and industries working in the field of pork and pork products all over Europe and also includes Brazil, China, South Africa and USA. The total budget of the project is 20.7 million Euro of which the EU contribution is 14.5 million Euro. This makes Q-PorkChains the greatest research project in the field of meat science financed by the EU commission.

The project was initiated on the 1st of January 2007, and the kick-off meeting was held on the 10th of January at University of Copenhagen, Faculty of Life Sciences, where approximately 140 people participated. Between the 11-12th of January approximately 95

project participants attended the first project meeting in order to initiate the project work.

## Facts about Q-PorkChains

Q-PorkChains is composed of a total of 9 modules. The research modules includes consumer and market analysis (Module I), sustainability of farm-level production systems (Module II), product development (Module III), integration and sustainable management of the production chain (Module IV), molecular biology as a tool for control of pork quality (Module V) and synthesis of existing knowledge on pork quality, safety and welfare (Module VI). Two horizontal modules (Module A and B) will function as catalysts enabling the research results from Module I-VI to be exploited and put into action. In Module A new innovative results will be incorporated into pilot and demonstration chains in cooperation with small and medium sized enterprises (SME's). In Module B news and new knowledge arising from Q-PorkChains will be disseminated to stakeholders at all levels by incorporating new knowledge into different learning objects for higher education as well as training programmes for industry employees. New innovative knowledge will also be disseminated via the public homepage, newsletters, press-releases, conferences etc.



Read more about the structure, objectives, expected outcome, the coordinators of Q-PorkChains and the individual vertical and horizontal modules by [clicking here](#).

Proceedings from the first Q-PorkChains congress will be available on our homepage from September 2007.



## Prediction of meat quality

A huge amount of data from pork production chains is collected. One of the aims is to construct a mathematical model that predicts pork quality based on animal and slaughter information.



By Mette Christensen

Pork production systems are facing new challenges:

-Increasing social rejection of intensive production systems due to environmental and animal welfare problems

- European pig production is losing competitiveness on the world market of meat
- Loss of diversity due to economic pressure
- Loss of systems adapted to local conditions

In Q-PorkChains existing systems are analysed and optimized to enhance their reactivity to market and societal demands. Increased diversification and flexibility is anticipated to enable design of a variety of production systems better suited to the local conditions and the specific market segments.



### Module II – scientific data

In Module II a comprehensive inventory of existing pork production systems and their sustainability will be performed in 20 EU countries and 9 non-European countries. The inventories will be based on existing scientific tools to assess various dimensions of sustainability such as animal welfare and human working conditions, environmental impact, economic sustainability, animal health and meat safety, meat quality, genetic resources and societal conformity. The inventory of production systems will furthermore list existing quality assurance schemes and strategies.

### Module IV – expert opinions

Simultaneously, in Module IV inventories on overview of the pork sector

based on expert interviews and secondary data are performed in five EU countries (Spain, Hungary, Greece, Germany and the Netherlands) and two non-European countries (China and South Africa). These inventories will result in identification of major bottlenecks and opportunities.

After the inventories have been performed, two or three typical chains will be selected per country for in-depth study on different subjects such as quality systems, information exchange, performance, organisation, innovation etc. One of the chains, the fresh meat chain, will be the same in each country. Spain has finalized the first phase of the inventory and two chains have been selected. ►



## The complete overview

Module IV coordinator Dr. Jacques Trienekens, Wageningen University, explains how module II and IV are linked:

- The link between the different inventories in Module II and IV will be made, when the results have been obtained. Module IV can then use the extensive description of pork production systems done by Module II, to look at how far these are covered by the Inventories of (farm-to-fork) supply chains in Module IV. If important gaps are found we will try to achieve more information about the supply chains, says Jacques Trienekens.

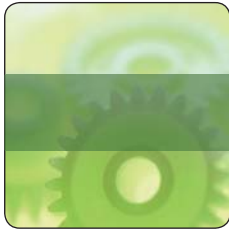
## Model to predict quality

Simultaneously, modelling of existing knowledge on animal welfare is being carried out in Module VI. On the basis of this information a database will be constructed. The aim is to produce a model that predicts technological and sensory pork quality, based on genetic background, production characteristics, animal treatment and slaughter technology.



Jacques Trienekens





## Industry platform launched

The pork industry is encouraged to take part in the web based platform about the innovations of Q-PorkChains.



By Maren Bruns

We are excited to announce that the Q-PorkChains Industry platform is being launched:

[www.q-porkchains-industry.org](http://www.q-porkchains-industry.org)

The aim of the Q-PorkChains Industry Platform is to inform stakeholders of the European pork industry about the innovative concepts of Q-PorkChains. Besides this the Q-PorkChains Platform is in the process of creating and elaborating a supporting network for improvements in the European pork production chain. The industry is invited to get involved in this process. If you wish to find out more [click here](#).

### How to join

We encourage the industry, in particular Small and Medium sized Enterprises (SMEs) of the sector, industry associations and other interested individuals to visit the Platform and take part in Q-PorkChains. The **"Business Network"** section of the Platform enables members of the industry, who are associated in the pork production chain, to present themselves.

If you want to partake and expand your network please **e-mail** a presentation of your enterprise or your industry association e.g. a description of your field of work, illustrations, video clips, sound files, a brief outline of your motivation to join the Q-PorkChains Network and anything else you think is relevant.

If you have any questions please do not hesitate to contact:

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# Consumer attitudes scrutinized

Peoples attitudes to pig- and pork production is investigated in seven countries. The results are to be used in other modules in the project.

By Mette Christensen



Product quality is a very important factor in pork production. To launch a product successfully, it is important to analyse which quality characteristics influence product demands and how the quality perception varies between and within countries.

## Huge consumer survey

A survey on people's attitudes to pork production systems and how pork products are perceived and enter consumers' meal patterns is currently being conducted in seven countries. Five are EU countries (Greece, Denmark, Belgium, Germany, Poland) and two are non-European countries (Brazil and China).

The aim of the survey is to investigate differences in the way in which people both in their role as consumer and citizens relate to pig production and pork. The results of the survey will be used as a basis for the future work in modules I, II and III.

## Quality aspects for consumers

When buying meat, the consumers quality expectations are based on visible quality characteristics and different types of information about the



agricultural production system. Other important characteristics are price, brand and label. Quality characteristics which are also important for consumers but can not be evaluated before purchase are taste, tenderness, juiciness and convenience of the product.

Food quality is also a subjective and dynamic concept and the perception of meat quality is changing fast. Today's consumer pays much attention to healthiness, convenience, locality, ethical and safety factors. These attri-

butes focus primarily on animal production and not on the product itself. However, there are great differences in the appreciation of agricultural production systems from which the product originates between European countries. This implies that cultural differences in studying quality perceptions in meat are important.

Read more about consumer perception of pork by [clicking here](#).



# Teachers point at e-learning

Teachers in meat topics expect an increased use of e-learning, a survey shows.



By Anne Algers

The overall aim of the teaching and training activities is to continuously provide universities and the industrial actors with the newest knowledge in the field of pork quality.

In order to implement results obtained from the research modules educational material will be developed and implemented in teaching and training at all levels from post graduate level to industry.

A survey on teaching methodology in pig production, processing and consumption has been conducted



during Marts to May 2007. One hundred teachers and trainers participated from different parts of the world.

The responders were involved in teaching of the subject areas covered by Q-PorkChains (Fig. 1).

- A) Consumer behaviour
- B) Market research in relation to meat
- C) Pig production
- D) Sustainable pig production
- E) Animal hygiene in relation to pig production
- F) Pig welfare
- G) Pig genetics
- H) Molecular biology in relation to muscle biology
- I) Meat science
- J) Meat processing
- K) Microbiology
- L) Food safety
- M) Food bio security
- N) Quality management
- O) HACCP / ISO systems
- P) Disease control programmes
- Q) Nutritional science
- R) Logistics
- S) Life cycle assessment in relation to meat
- T) Other

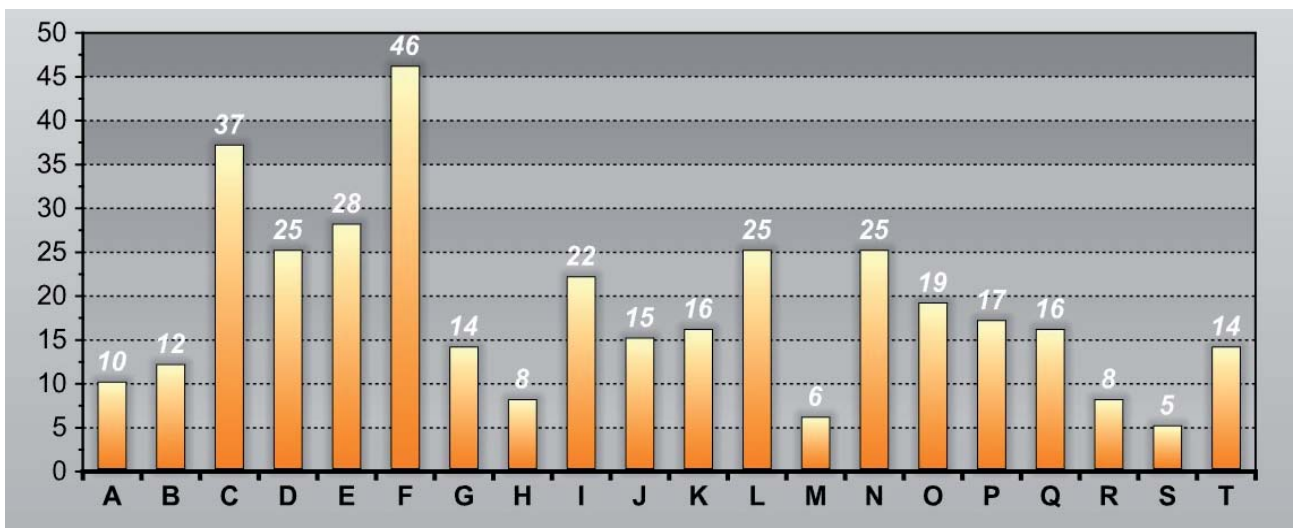


Figure 1. Number of responders teaching different subject areas.



## E-learning is the future

It can be concluded that the responders expect an increased use of e-learning and problem based learning. Furthermore they want training in how to use e-learning, they are positive to share the few existing learning resources present and they want to take part in piloting new learning resource developed within the project. Finally there seems to be a great interest in being part of a virtual community (Fig. 2).

Read the report on the results of the survey by [clicking here](#).

## New survey

In October 2007, a survey will be launched, and a workshop will be conducted on learning needs and desires of the pork chain. In June 2008 a demand driven model will be presented for teaching and training on the different levels in the educational system.

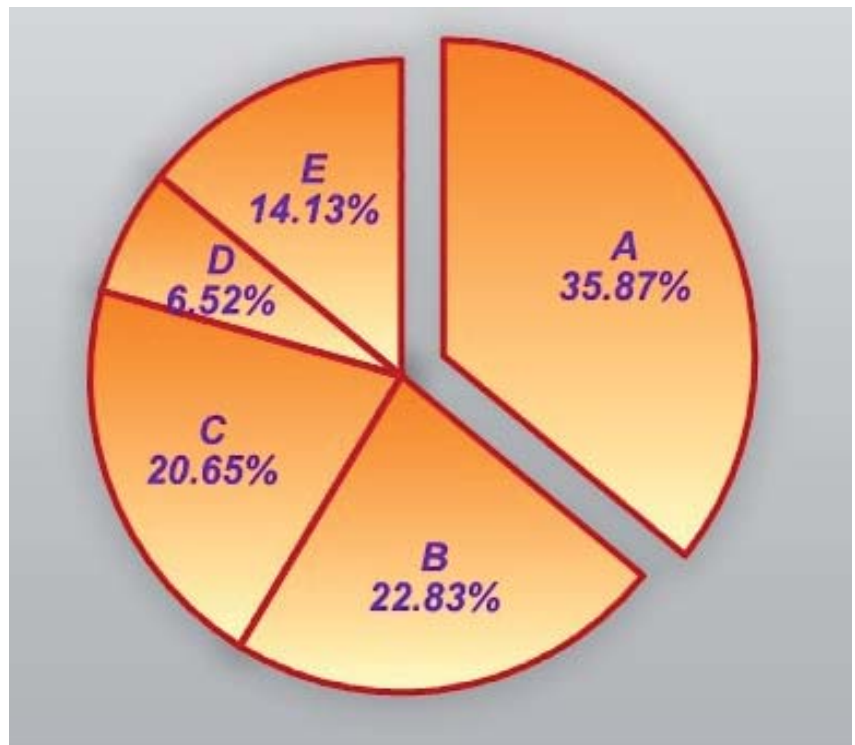


Figure 2. Proportion of responders who want to take part in a virtual community. A) Yes, very interested, B) Moderately interested, C) Slightly interested, D) No interest, E) I don't know.



# Web community for PhD students arising

A virtual community for PhD students involved in Q-PorkChains will be developed on the internet. Other PhD students in the areas of pig and pork production will soon be invited to join.

By Jakob Søltøft-Jensen



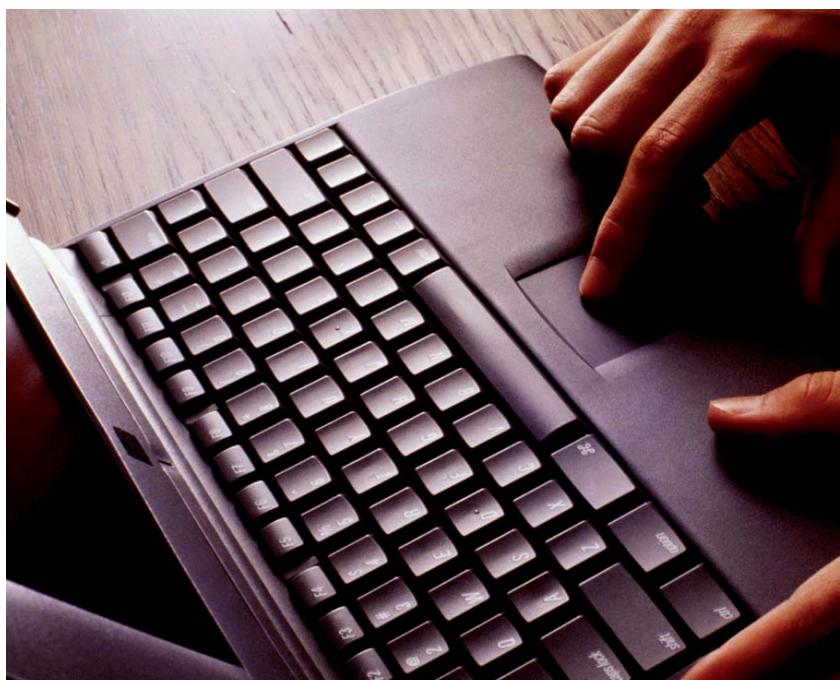
Currently seven PhD students are enrolled in Q-PorkChains and more are to come. On 28 June a workshop arranged by University of Bonn,

was held for PhD students involved in Q-PorkChains from University of Bonn and Wageningen University. Here the students were networking and discussing aspects of Q-PorkChains together with post docs and workpackage leaders from Module IV.

Now it is planned to launch a virtual community for PhD students during autumn 2007. This community will be open for all PhD students working in the area of pig and pork production and should aim at facilitating scientific discussions, weblogs and networking within the research areas of Q-PorkChains.

Module B coordinator Dr. Mette Christensen, University of Copenhagen – Faculty of Life Sciences:

- We will take the initiative to create a PhD virtual community because it will benefit both the PhD students and our project. PhD students from all over the world can share knowledge,



ideas, practical challenges and network in the same areas that Q-PorkChains cover. Furthermore, the plan is to make different activities later in the project directed specifically towards PhD students and young scientists, Mette Christensen explains.

The details and the administration of the community remain to be discussed.

- I am certain, that initiatives that focus on stimulating increasing interaction between young scientists and

PhD students are important to reach new results and inventions in the pig and pork production chain. Especially a huge, collaborative project like ours is the perfect frame for this kind of creativity, Mette Christensen finishes.

When the e-community is up and running PhD students will be encouraged to join, probably from the beginning of 2008. At that time, visit our homepage [www.qpork.org](http://www.qpork.org) for more information.

# List of participants



- 1 University of Copenhagen (KU) Denmark
- 2 University of Aarhus (AU) Denmark
- 3 Wageningen University (WU) Netherlands
- 4 University of Bonn (UB) Germany
- 5 Swedish University of Agricultural Sciences (SLU) Sweden
- 6 Agricultural University of Athens (AUA) Greece
- 7 University Gent (UGent) Belgium
- 8 University of Newcastle (UNEW) United Kingdom
- 9 Technical University of Lodz (TUL) Poland
- 10 Politechnic University of Madrid (UPM) Spain
- 11 LaSalle Beauvais Polytechnic Institute (LB) France
- 12 University of Helsinki (UH) Finland
- 13 Royal Veterinary College (RVC) United Kingdom
- 14 Institute of Genetics and Animal Breeding, Polish Academy of Science (PAS) Poland
- 15 National University of Ireland, University College Dublin (UCD) Ireland
- 16 University of Naples (UNINA) Italy
- 17 French National Institute for Agricultural Research (INRA) France
- 18 Inst. for Food and Agricultural Research and Technology (IRTA) Spain
- 20 Teagasc, Ashtown Food Research Centre (AFRC) Ireland
- 21 Norwegian Food Research Institute (Matforsk) Norway
- 22 ASG Veehouderij BV (ASGV) Netherlands
- 23 Danish Meat Research Institute (DMRI) Denmark
- 24 Central Food Research Institute (CFRI) Hungary
- 25 Agrotechnology & Food Sciences group (AFSG) Netherlands
- 26 RIKILT - Institute of Food Safety (RIKILT) Netherlands
- 27 Grenzüberschreitende Integrierte Qualitätssicherung (GIQS) Germany
- 28 Agri Chain Competence Centre (ACC) Netherlands
- 29 Zentralverband der Deutschen Schweineproduktion (ZDS) Germany
- 30 Association of Meat Processors in Bulgaria (AMB) Bulgaria
- 31 Institut de la Filière Porcine (IFIP) France
- 32 Chambre Régionale d'Agriculture de Bretagne (CRAB) France
- 33 The Danish Meat Trade College (DMTC) Denmark
- 34 Danish Crown (DC) Denmark
- 35 Vion Food Group (VFG) Netherlands
- 36 Nutreco, Swine Research Centre (SRC) Netherlands
- 37 Pigchamp Pro (PP) Spain
- 38 Pig Improvement Company UK Limited (PIC) United Kingdom
- 39 Casademont (CS) Spain
- 40 Esteban Espuña (EE) Spain
- 41 Glon Group (GG) France
- 42 Erzeugergemeinschaft Osnabrueck (EGO) Germany
- 43 France Hybrides (FH) France
- 44 Chainfood (CHF) Netherlands
- 46 Qualitype (QT) Germany
- 47 r-biopharm (r-bio) Germany
- 48 Nanjing Agricultural University (NAU) China
- 49 University of Pretoria (UP) South Africa
- 50 FUNDACE, University of São Paulo (FD) Brazil
- 51 Inst. of Animal Science/ Chinese Academy of Ag. Science (CAAS) China
- 52 Kansas State University (KSU) United States of America
- 53 Scottish Agricultural College (SAC) United Kingdom
- 54 European commission ( ) Belgium

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