



ETHICAL MEAT PRODUCTION & CONSUMER RESPONSE

IPWC Conference 'Improving pig welfare – what are the ways forward?' April 29-30, 2015, Copenhagen

ATHANASIOS KRYSTALLIS

PROFESSOR
MAPP CENTRE
SCHOOL OF BUSINESS AND SOCIAL SCIENCES
AARHUS UNIVERSITY



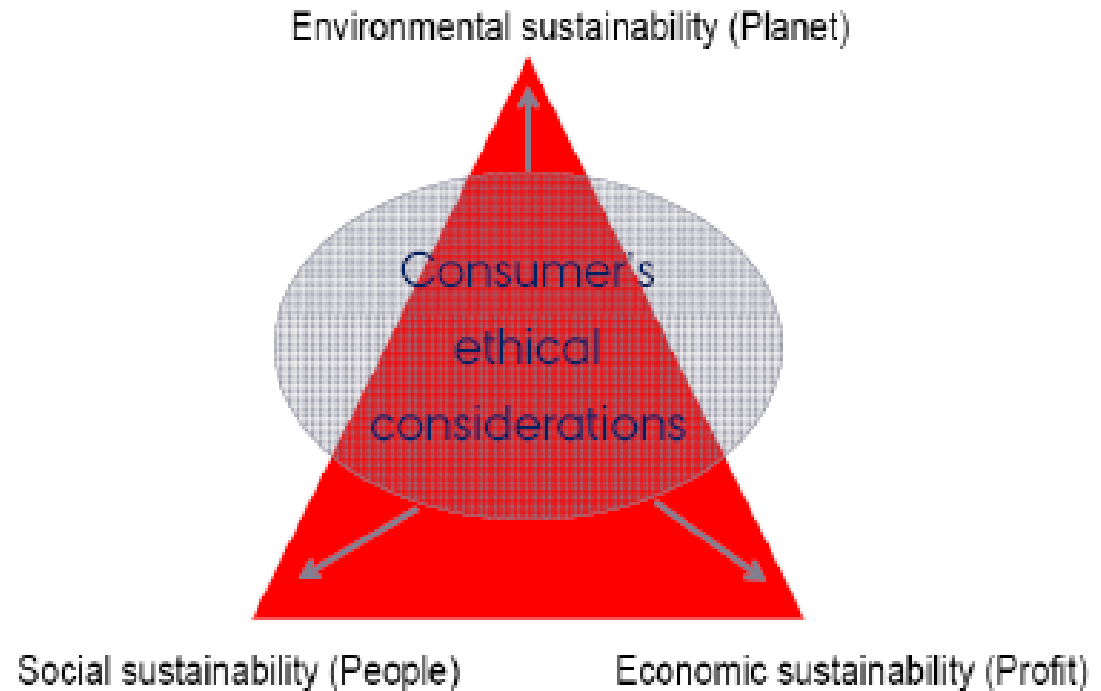
AGENDA

1. Overview of the “responsibility & ethics” trend in food consumption
2. Industry response:
Examples of “ethical” differentiation in production methods
 - ✓ ...Animal welfare-labelled meat
 - ✓ ...Organic-labelled meat
3. Scientific response:
Research evidence from social science
4. Is **informed consumer choice** an option for inducing sustainable meat consumption?
 - ✓ ...information and consumer liking...
 - ✓ ...information and consumer WTP...
 - ✓ ...and labelling: the flip side of the coin
5. Conclusions & challenges

Everyone is
responsible



1. RESPONSIBILITY & ETHICS AS A FOOD CONSUMPTION TREND



RESPONSIBILITY: BRIEF OVERVIEW

- › Consumers grown accustomed to having access to a broad and varied assortment of foods irrespective of time of year and season.
- › Typically, consumers do not pay attention to consequences of their practices with regard to
 - › public health,
 - › social and economic inequality (nationally and globally),
 - › climate change,
 - › bio-diversity,
 - › animal welfare or
 - › the use of scarce resources (e.g. energy, soil and water).
- › This is beginning to change: consumers started caring, and actors at all levels of the food chain are increasingly called upon to **take responsibility** for their actions



ETHICS AND CONSUMER RESPONSE

Effects of intensive farming on sustainability (i.e. animal welfare or environmental preservation) **increased in interest and awareness of citizens** progressively **since the 1990's**:

**SHE DESPERATELY
NEEDS YOUR VOICE.**



Dying of heat stress, starvation and dehydration is a slow form of torture but this cow can't make her suffering heard. If you see cattle, sheep or any animals that haven't been provided with shelter, water or food, please report it. Your call is completely anonymous and could help end their misery.

**CALL 1800 751 770
AND END UNNECESSARY SUFFERING.**

You don't have to identify yourself
and we only retain information relating to the animal.

Authorised by 1800 Animal Cruelty Hotline.

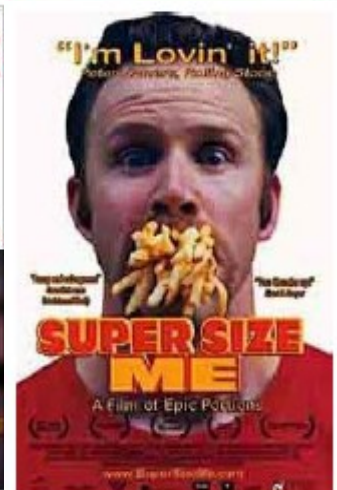
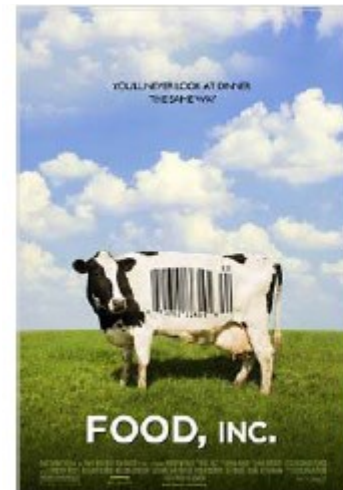
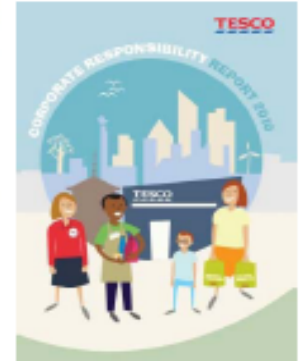
- ✓ Harrington (1991): Little interest in production systems and their effects on animal welfare by the majority of consumers
- ✓ Issanchou (1996): Sustainability was not a prominent aspect affecting meat choice, yet would acquire more interest in future
- ✓ Verbeke & Víaene (1999): Ethical production is likely to become a key-issue in driving consumer preference
- ✓ Harper & Henson (2000; 2001): Consumers are increasingly influenced by ethical concerns (e.g. animal welfare)
- ✓ Blokhuis et al. (2003): Sustainability is an important component of the animal products' quality assurance for consumers
- ✓ In a EU study (2007): **Importance of farm animal wellbeing and environment protection rated with a 7.8/10**, with considerable variation across the EU

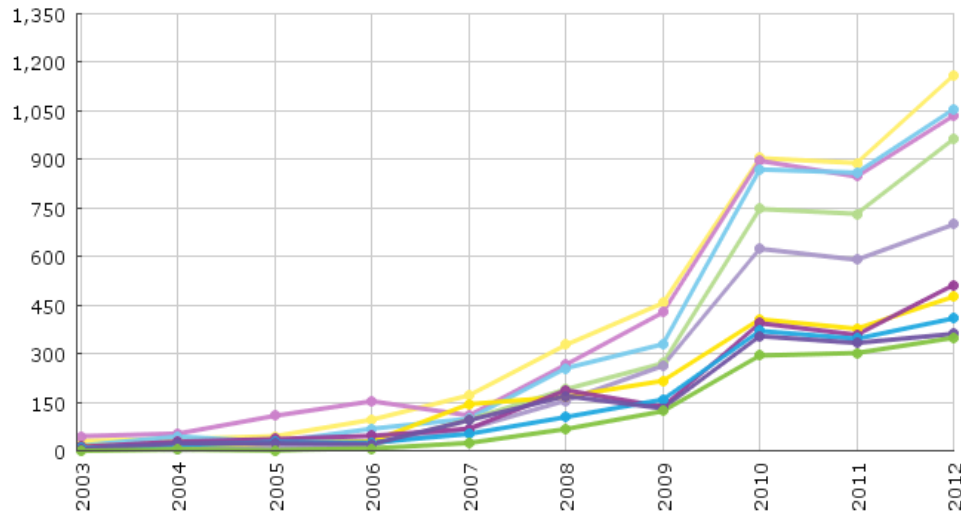
Nowadays, **perception of food quality is determined ALSO by ethical production characteristics**, along with tastiness & safety

INDICATORS AND EXAMPLES



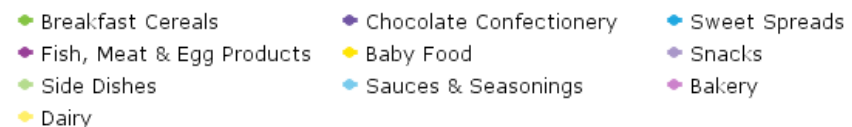
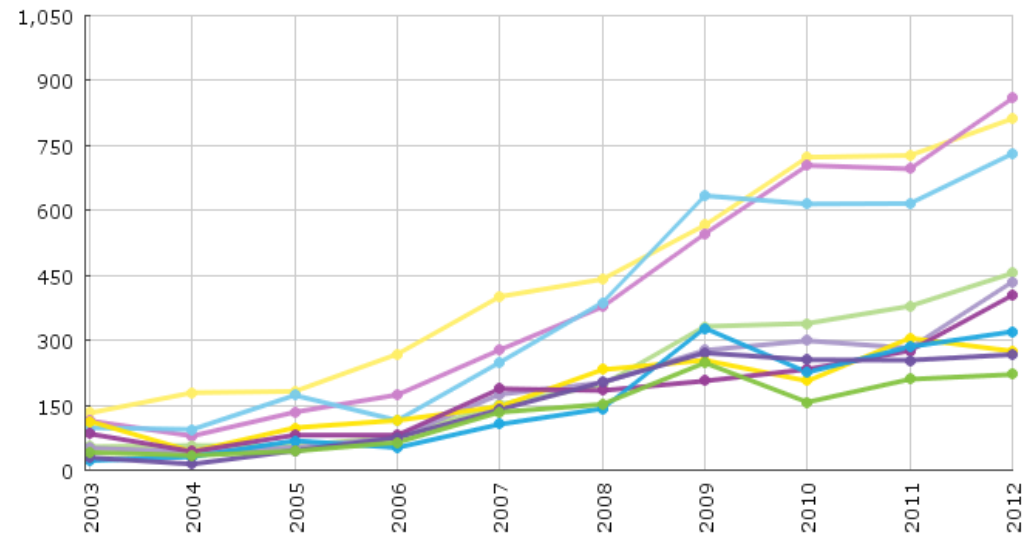
- › Numerous books, articles and movies criticising the current food regime and consumption practices
- › Major retailers try to position themselves as being responsible through **Corporate Social Responsibility** (examples include *Billa, Coop Danmark, Coop Schweiz, Irma, Retail Forum for Sustainability, Sainsbury, Tesco, Whole Foods*).
- › Growing sales of food products positioned by **environmental** and **ethical** claims





› **29,149** food products launched with the claim "**ethical**" on their description (top-10 categories, all European countries) - Mintel Gnpd, Apr. 2013

› **29,242** food products launched with the claim "**organic**" on their description (top-10 categories, all European countries) - Mintel Gnpd, Apr. 2013



2. INDUSTRY RESPONSE: EXAMPLES OF ETHICAL DIFFERENTIATION IN PRODUCTION PROCESS

1. Animal welfare-labelled meat



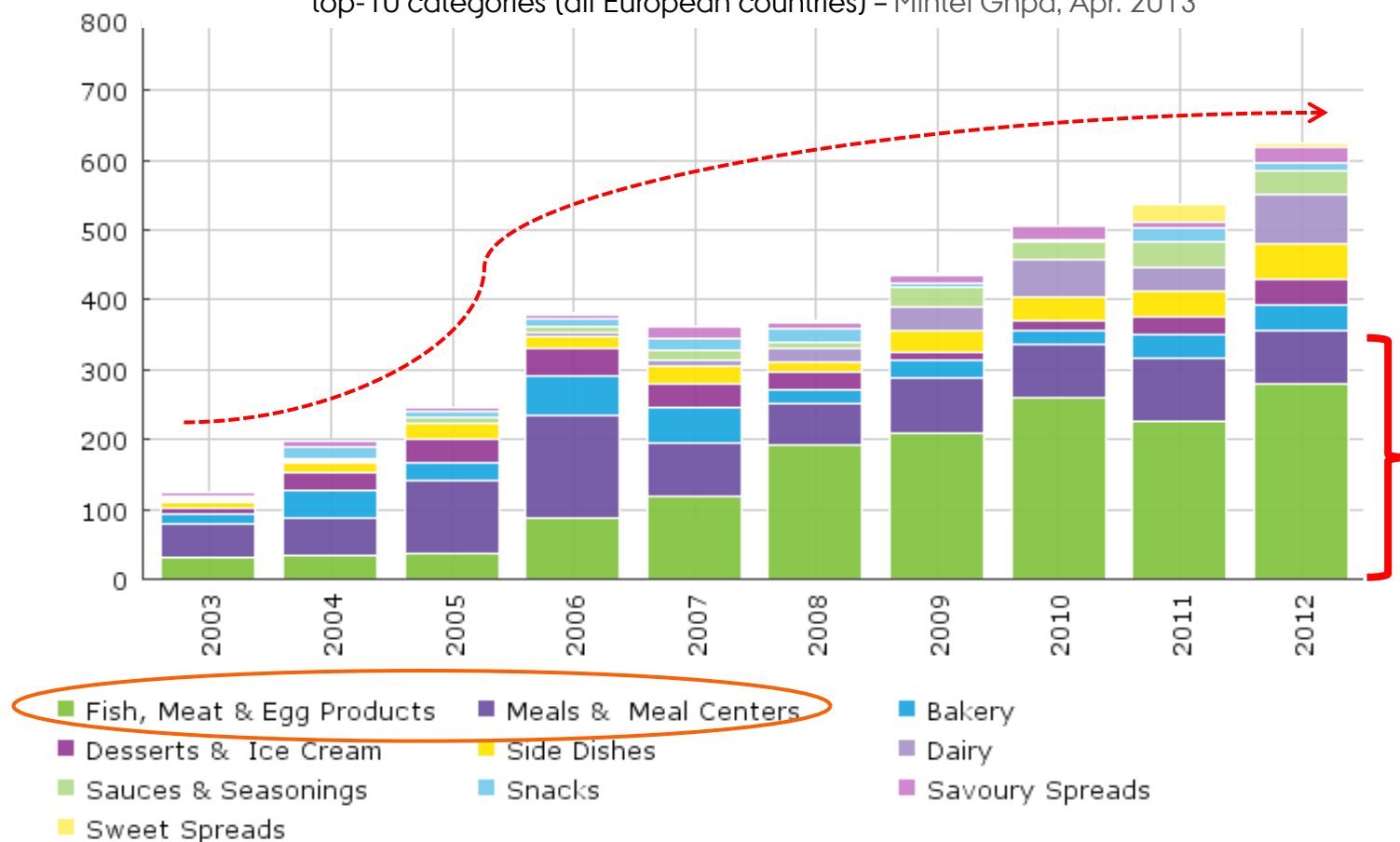
2. Organic-labelled meat





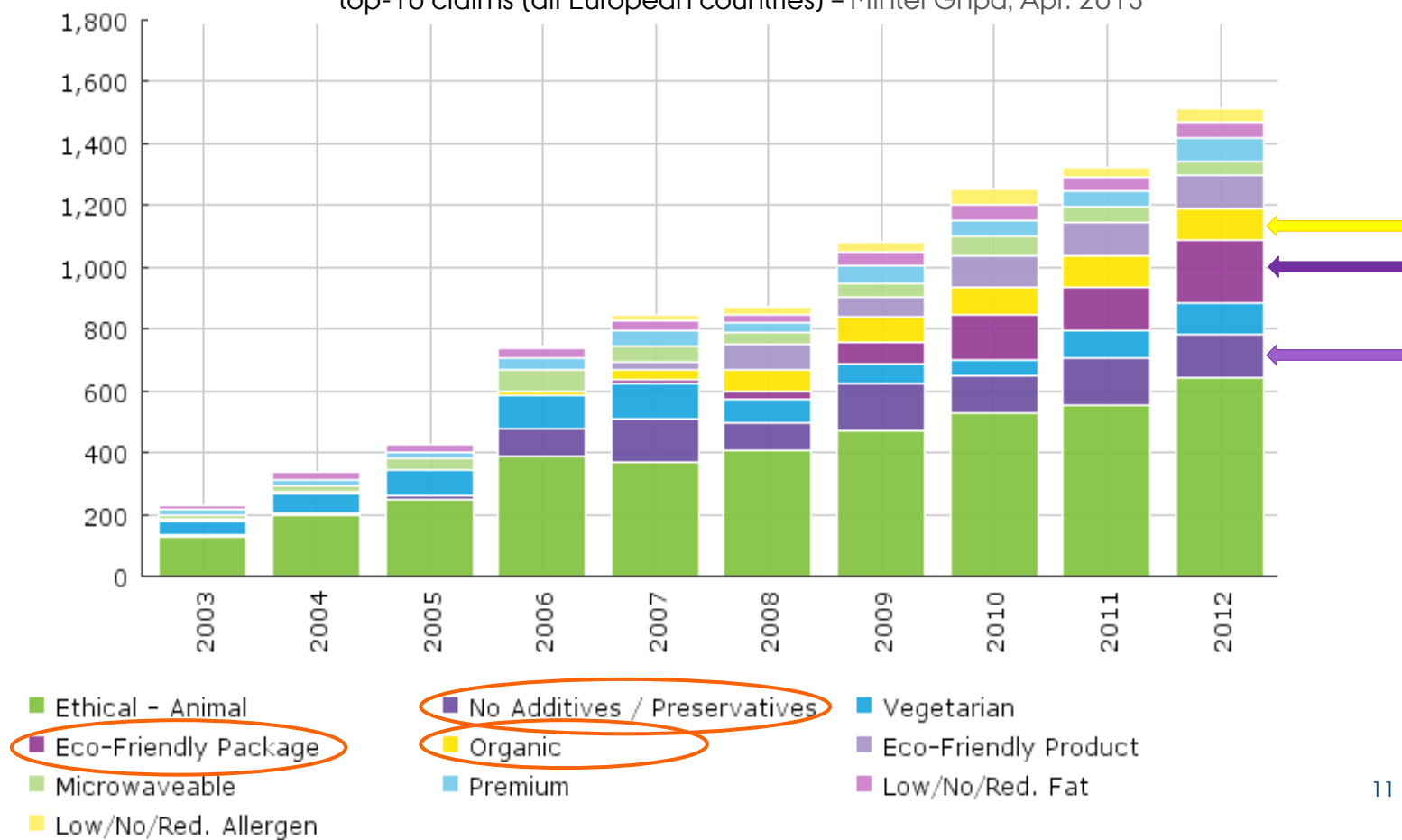
Around 4,000 new food product launches with the term “Animal welfare” in their description

Number of variants with the term “Animal welfare” by year and category
top-10 categories (all European countries) – Mintel Gnpd, Apr. 2013





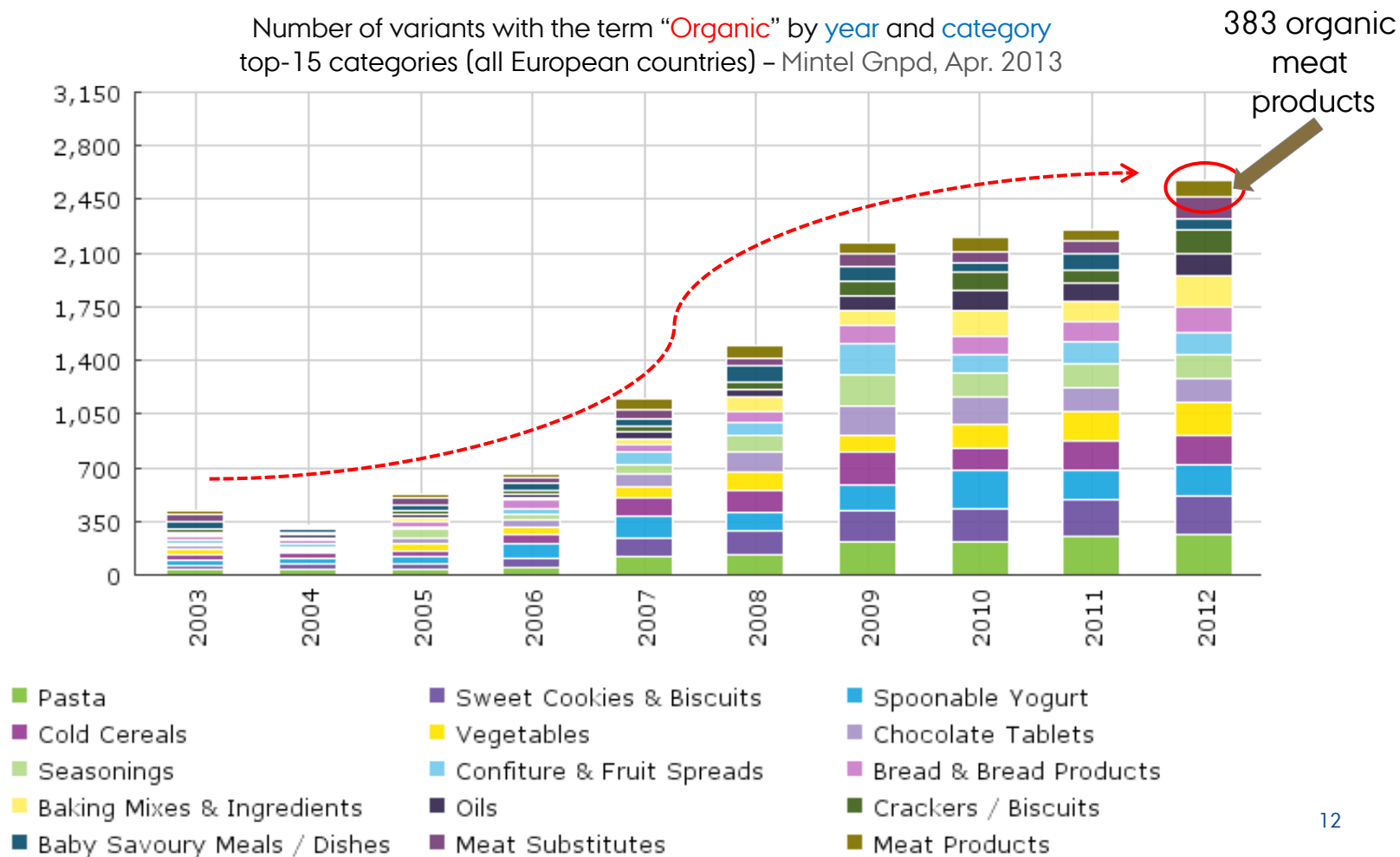
Number of variants with the term “Animal welfare” by year and additional claim
top-10 claims (all European countries) – Mintel Gnpd, Apr. 2013





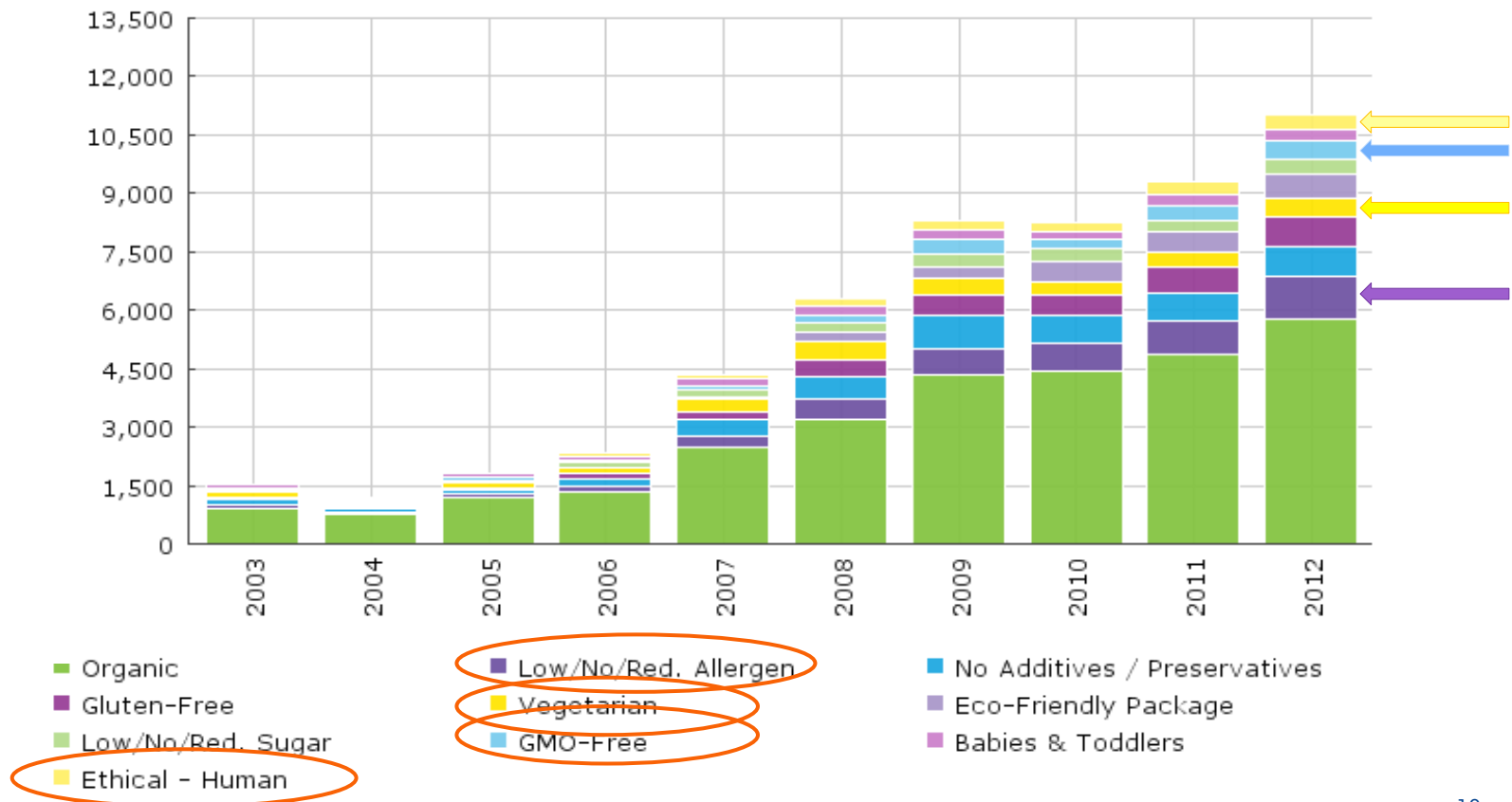
Around 30,000 new food product launches with the term “Organic” in their description

Number of variants with the term “Organic” by year and category
top-15 categories (all European countries) – Mintel Gnpd, Apr. 2013

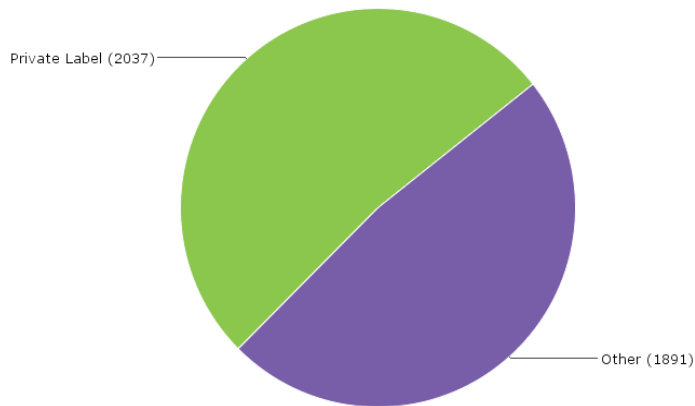




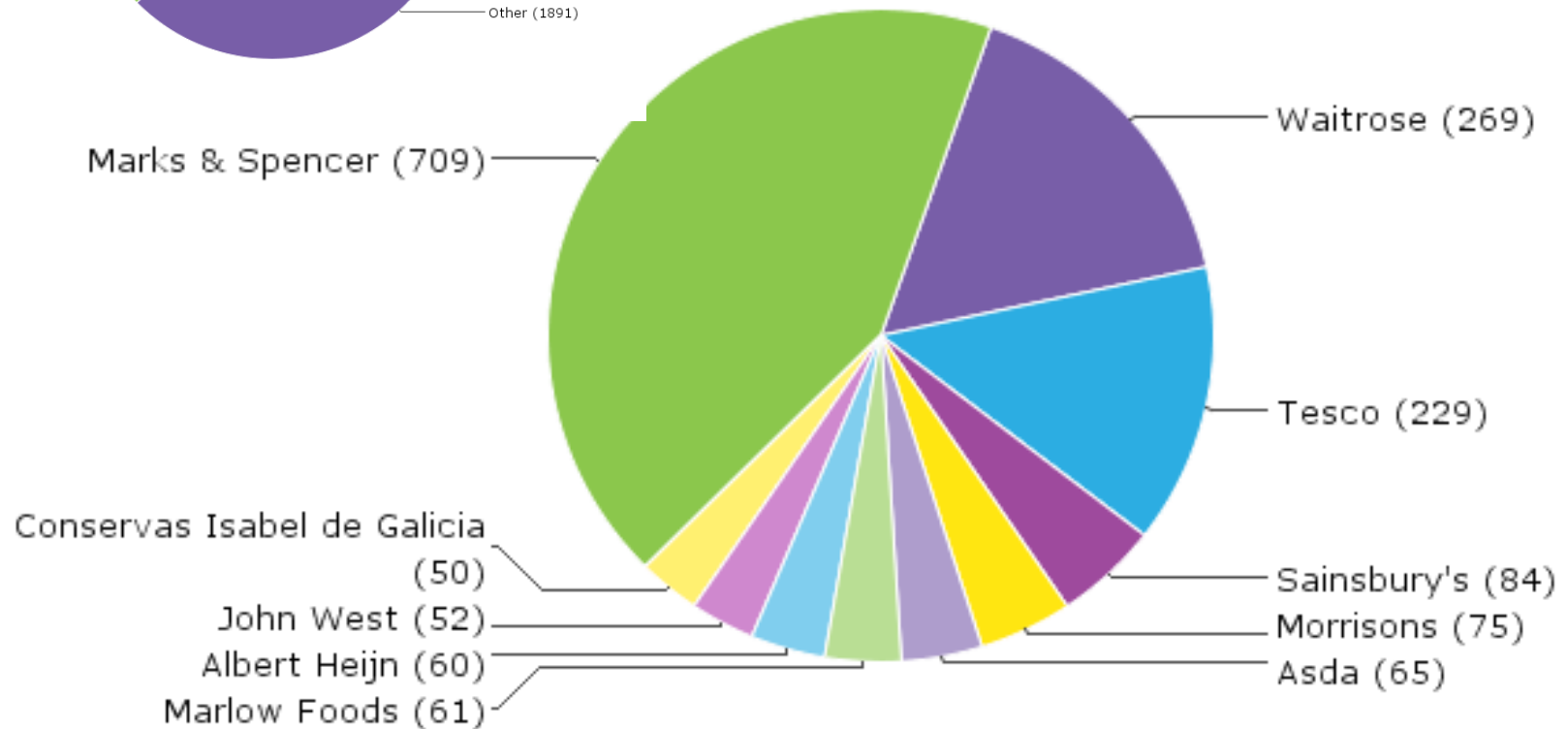
Number of variants with the term “Organic” by year and additional claim
top-10 claims (all European countries) – Mintel Gnpd, Apr. 2013



Number of Variants by Private Label



Number of variants with the term “**Animal welfare**” by **manufacturer**
top-10 companies (all European countries) – Mintel Gnpd, Apr. 2013





Our animal welfare policy is award winning



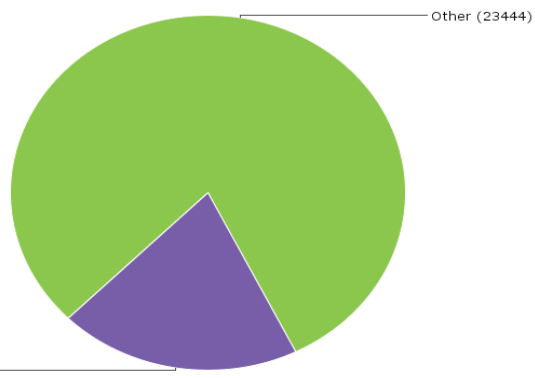
M&S was named Compassionate Supermarket of the year in 2008 by leading animal welfare charity 'Compassion in World Farming'.



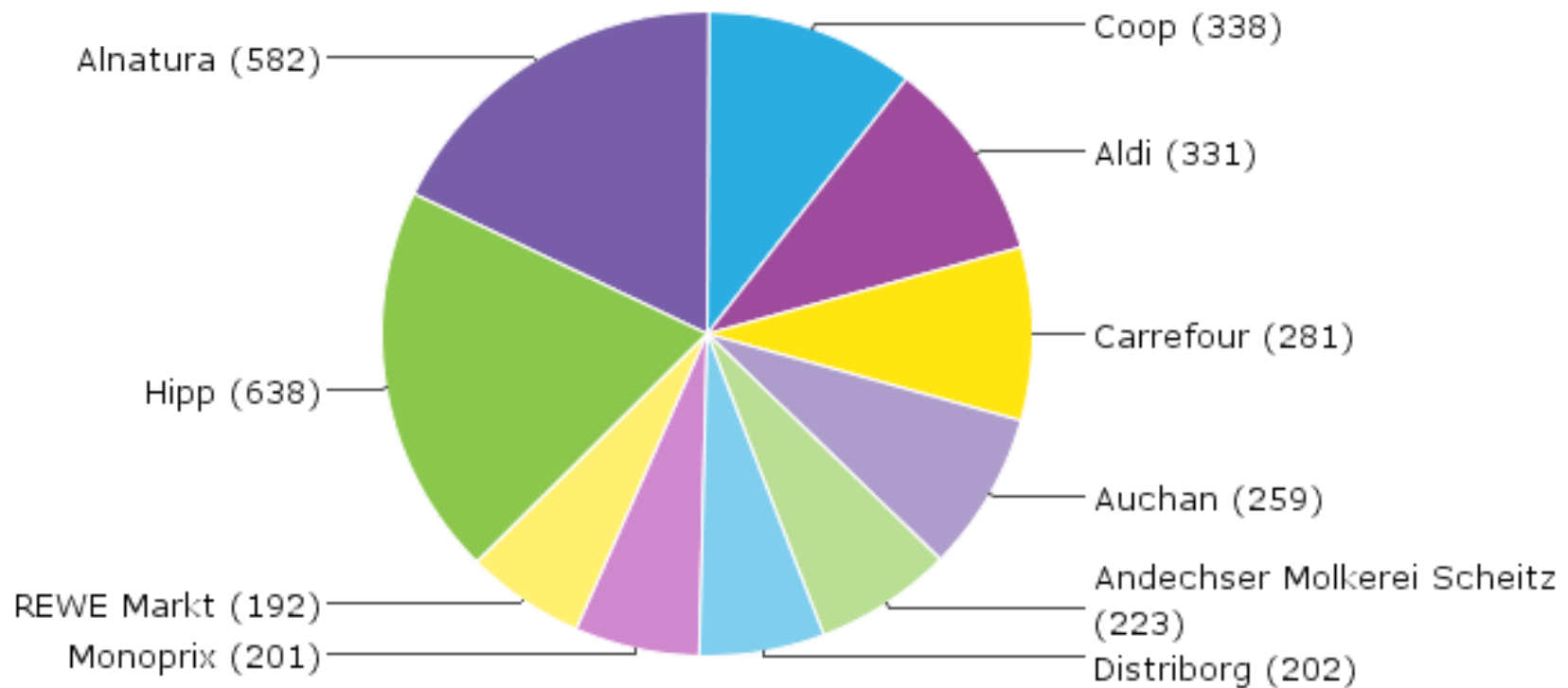
McDonald's USA Animal Welfare Working with the Experts to Continuously Improve



McDonald's Animal Welfare Global Practices



Number of variants with the term “**Organic**” by **manufacturer**
top-10 companies (all European countries) – Mintel Gnpd, Apr. 2013



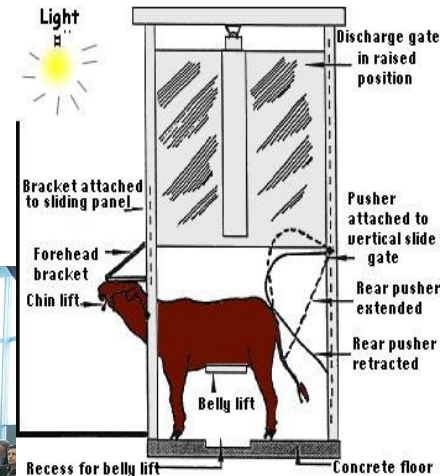


Organic Meat...

- Beef
- Mutton
- Lamb



3.SCIENTIFIC RESPONSE: EVIDENCE FROM SOCIAL SCIENCE





Improving the 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.

[Login](#)

- PORK CHAINS

Search

Q-PorkChains is funded by
6th Framework Programme  

CONSUMERS PIG PRODUCTION PRODUCT QUALITY CHAIN MANAGEMENT INDUSTRY E-LEARNING NEWS PRESS

Q-PorkChains

Forums and communities

E-Learning resources


For e-learning, wiki on pig production and virtual community for teachers and trainers visit porktraining.org.

SMEs and Industry

Visit our platform for the European pork industry at g-porkchains-industry.org.

Intranet for project management

[The Intranet for Q-PorkChains](#)
(password required)




Ensuring quality of meat for the future

News

[More news](#)

European saddle pig network meeting
Danish Department of Food Science to be majorly...
New learning resource in the field of product...
International Conference on Chain and Network...
Newsletter no.5 from Q-porkchains is published...
Registration to the 1st Meat Week in Nov 2009...
A new presentation of a Open Learning Ressorce
Friday 21 of August University of Copenhagen...
New book on European pork chains



Subscribe to the biannual newsletter


Activities

[More activities](#)

About Q-PorkChains

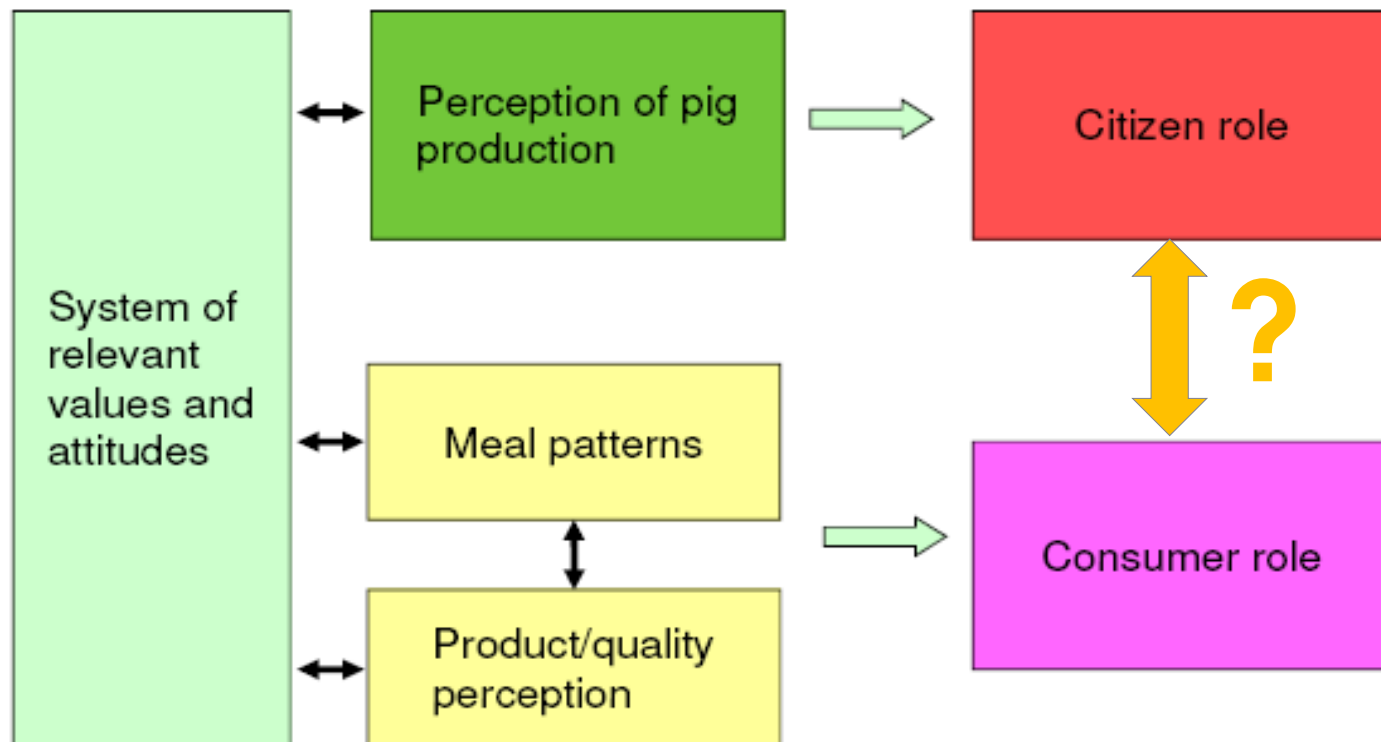
The aim is to develop high quality pork products in sustainable production systems with low environmental impact. During five years (2007-2011) 51 project partners are supported by the EU 6th FP with 14.5 mill €. Total budget is 20.7 mill €.

[Read more about Q-PorkChains](#)





WPI.1: Segmentation associated with attitudes and behaviour related to pig production and consumption of pork products





WPI.1: Segmentation associated with attitudes and behaviour related to pig production and consumption of pork products

| EU | China |
|---|---|
| 1. Stocking density¹ Less than 100 sows About 400 sows 800 or more sows | 1. Farm size¹ Small (family farm with 1-5 sows) Medium (large-scale family farm with up to 400 sows) Large (industrial pig farm with several thousands of sows) |
| 2. Housing and floor type² Slatted floor Litter bedding Outdoors access | 2. Animals' breed⁶ Traditional Chinese European |
| 3. Effort to protect soil, air, water³ Minimal Some Maximum | 3. Food safety efforts at the farm level⁷ Not a special consideration Special attention (regular veterinary control and hygiene regulations) Maximum attention (strict veterinary control and hygiene regulations) |
| 4. Fat content according to feed⁴ Standard Lower Healthier | 4. Meat type⁸ Tasty Lean |
| 5. Quality type of the product⁵ Consistent Variant Demanded by key-customers | 5. Quality type of the product⁵ Consistent Variant |



WPI.1: Segmentation associated with attitudes and behaviour related to pig production and consumption of pork products

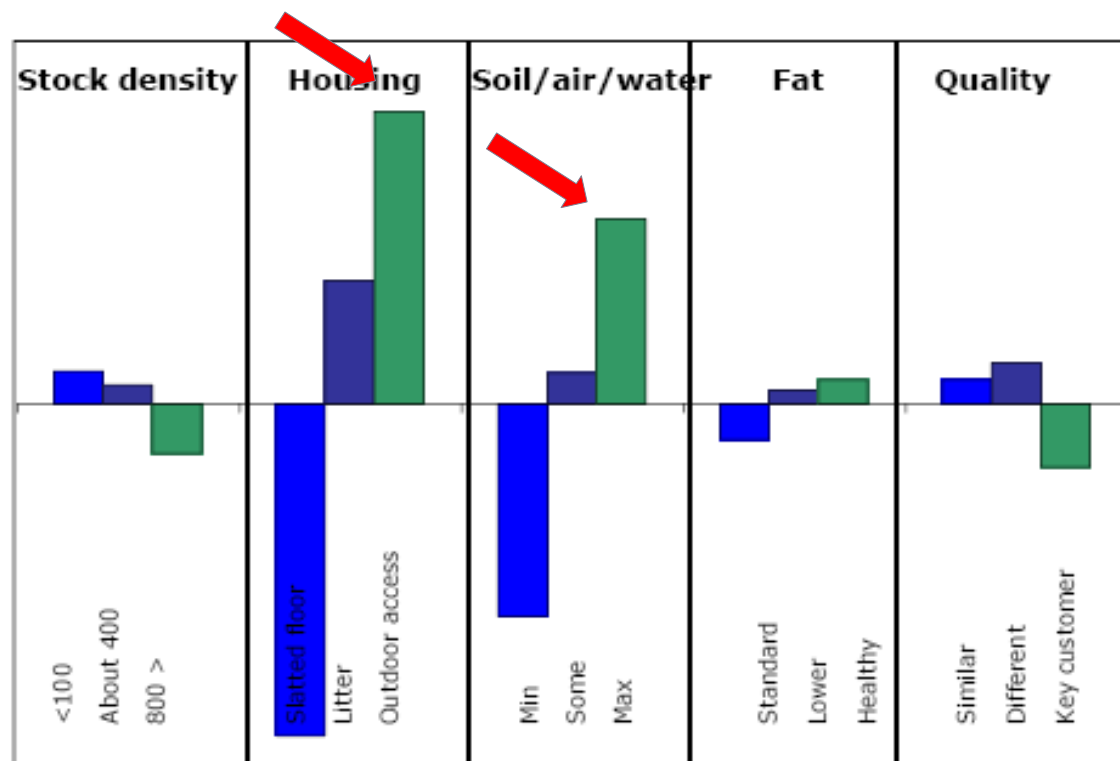
| Profile no. | Profile description |
|-------------|--|
| 1 | Consider a farm with about 400 sows. The animals are housed on litter. There is some effort to reduce the production system's ecological impact on soil, water and air. Pigs' feeding aims for lower fat content. The farm produces pigs with similar meat quality every time |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | Consider a small farm with less than 100 sows & other livestock. The animals are housed on litter. The effort to reduce the production system's ecological impact on soil, water and air is minimal. Pigs' feeding aims for healthy fat. The farm produces pigs with similar meat quality every time |

NOTE:

respondents had to indicate how much they liked each described production system by assigning a score to each from -5 = "disapprove very much" to +5 = "approve very much"

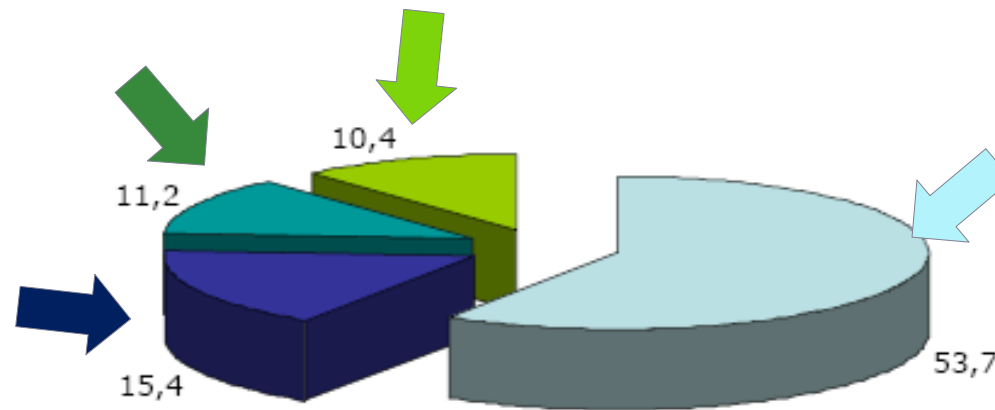


Factors with impact on attitudes to pig production – overall sample





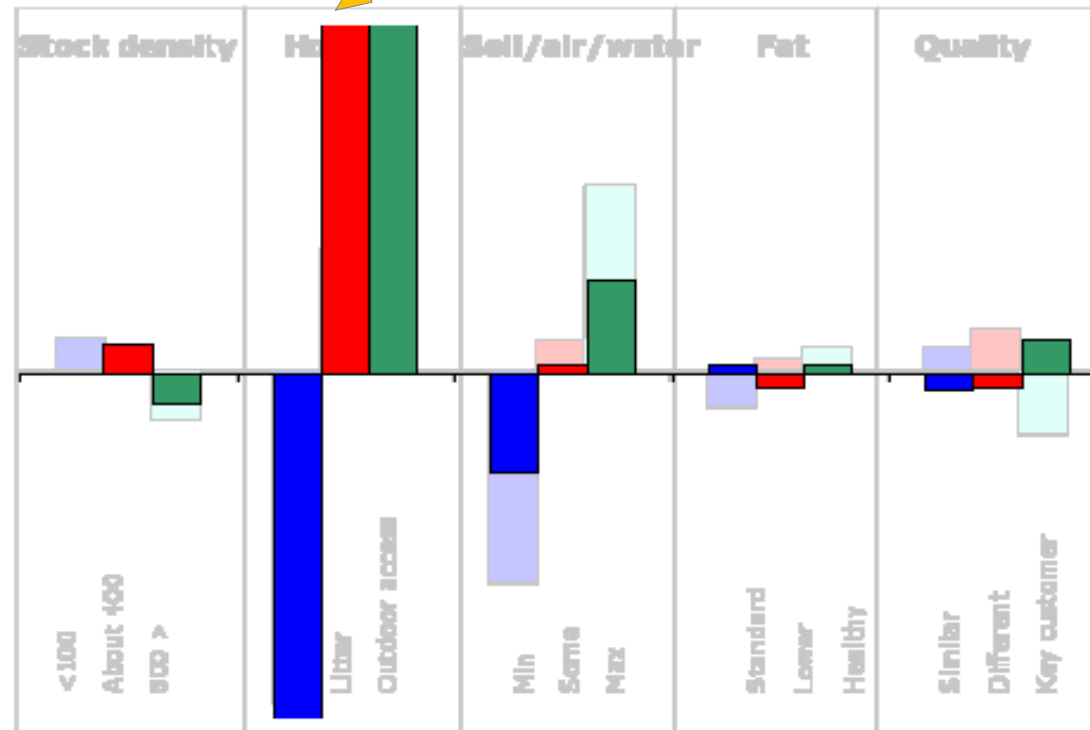
Four segments



- Broad majority with weak attitudes
- Intensive farm supporters
- Animal welfare supporters
- Small farming supporters



Segment 3: Animal-welfare conscious





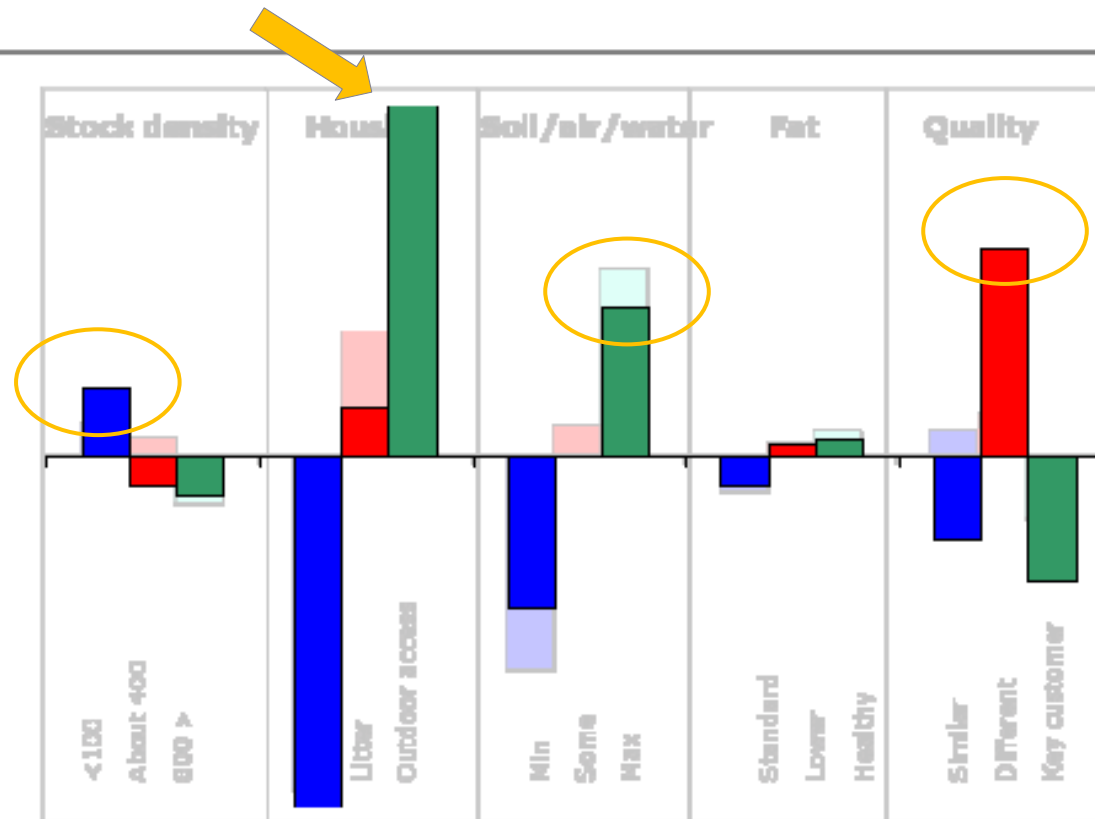
Segment 3: Animal-welfare conscious

- High share of Germans, but also lots of Danes
- Less urban, closer to rural centres of pig farming
- More females
- Lowest share of higher education
- Reasonably well-off





Segment 4: Small farming supporters





Segment 4: Small farming supporters

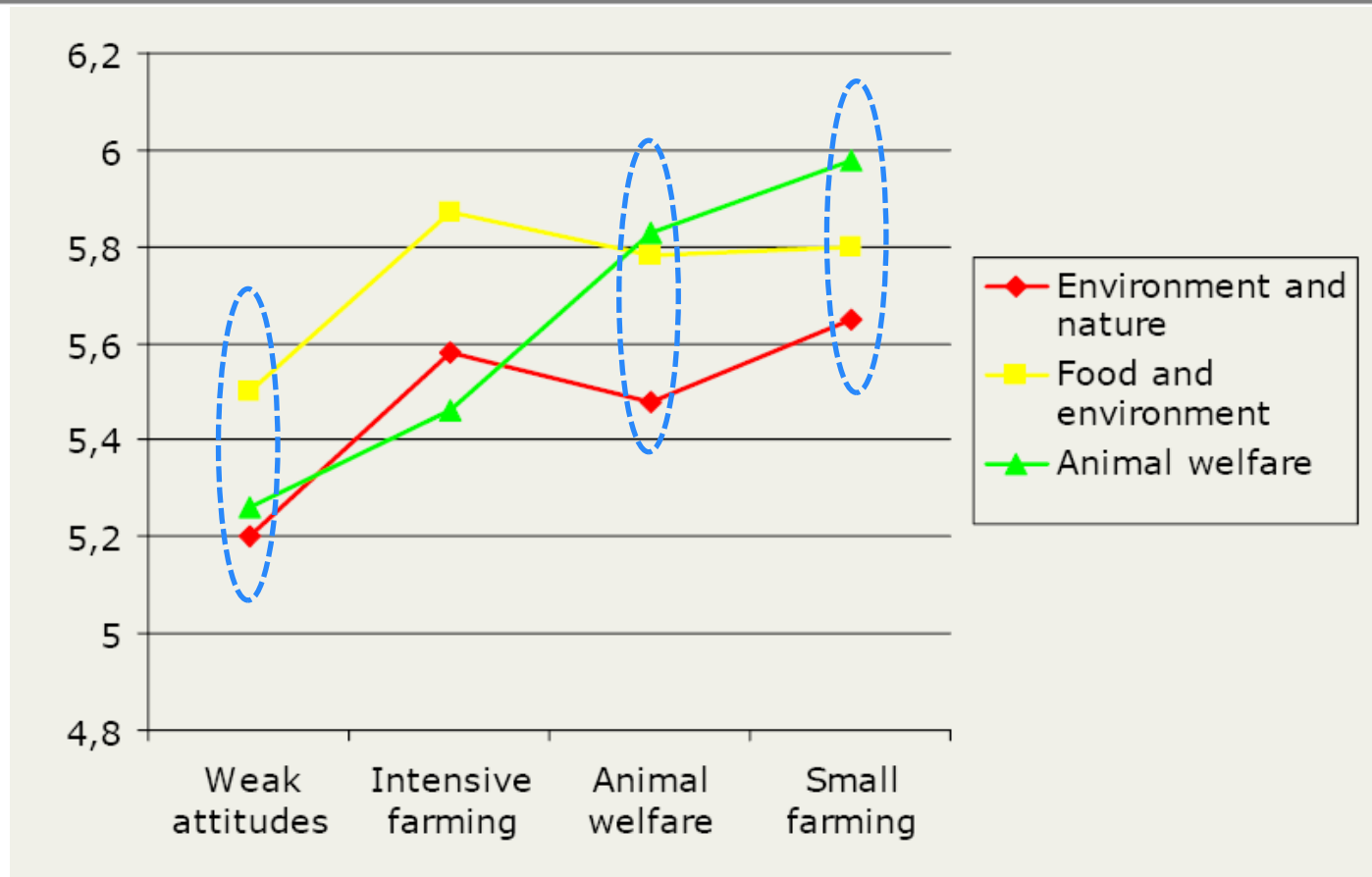
- High share of Danes, but also lots of Germans
- High share of females
- Lowest share of well-off people
- Average in terms of education
- Highest share of salaried employment, lowest of managerial employment
- Strong attitudes to environment, nature, animal welfare



"Oh, geez, sorry about that, ma'am. Some nutty vegetarian has been putting those up to make people feel guilty about eating meat."



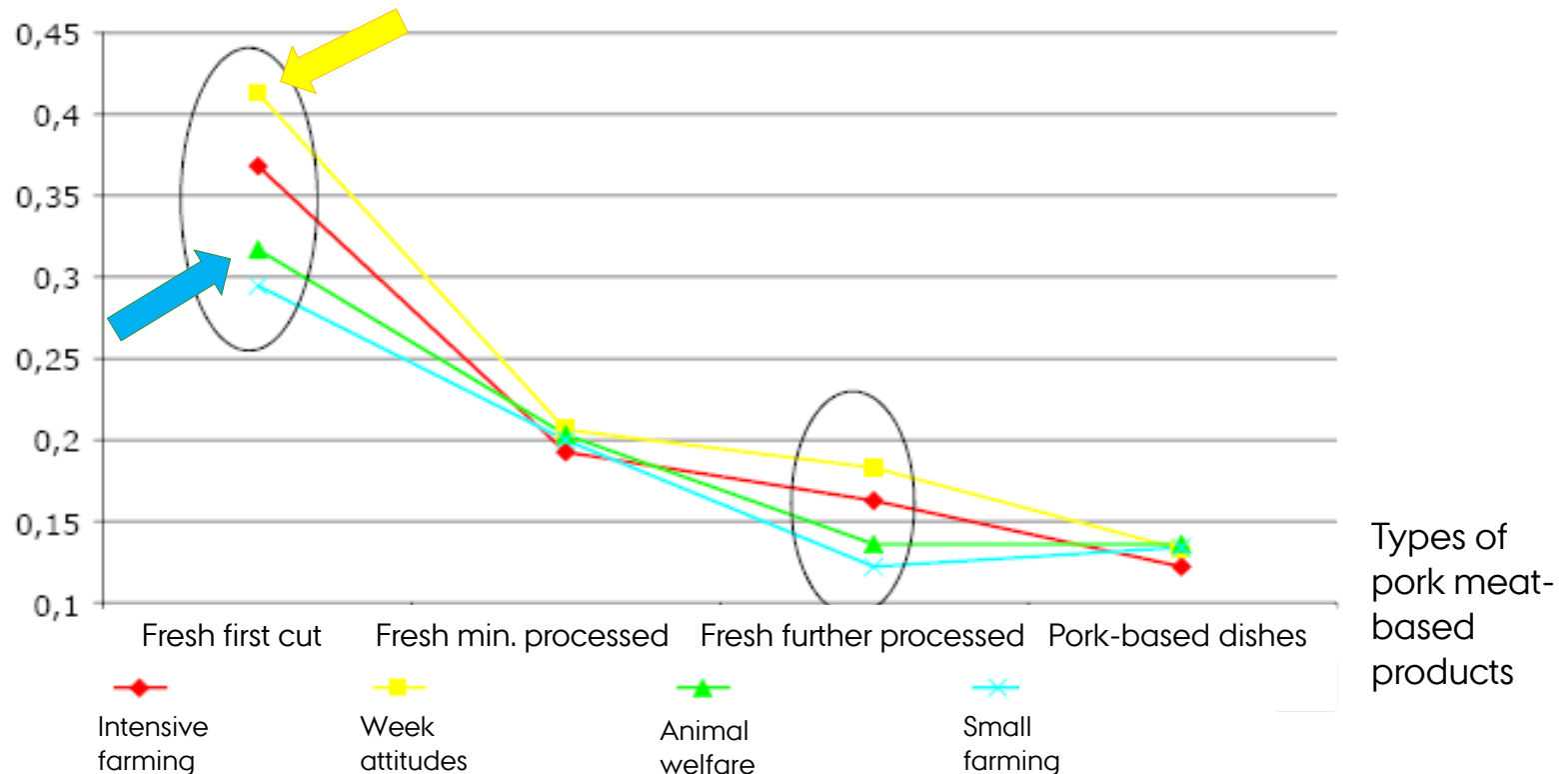
Citizens and consumers





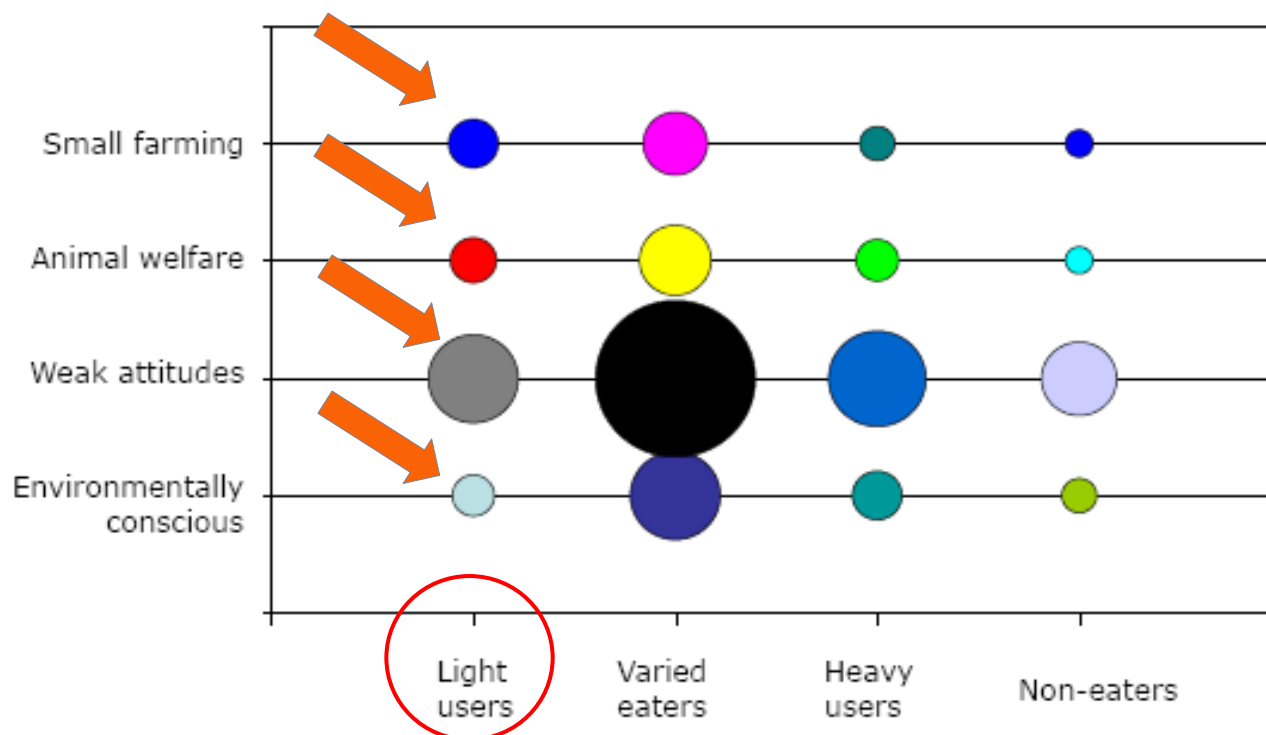
Citizens and consumers

Grams of pork meat/day





Citizens and consumers



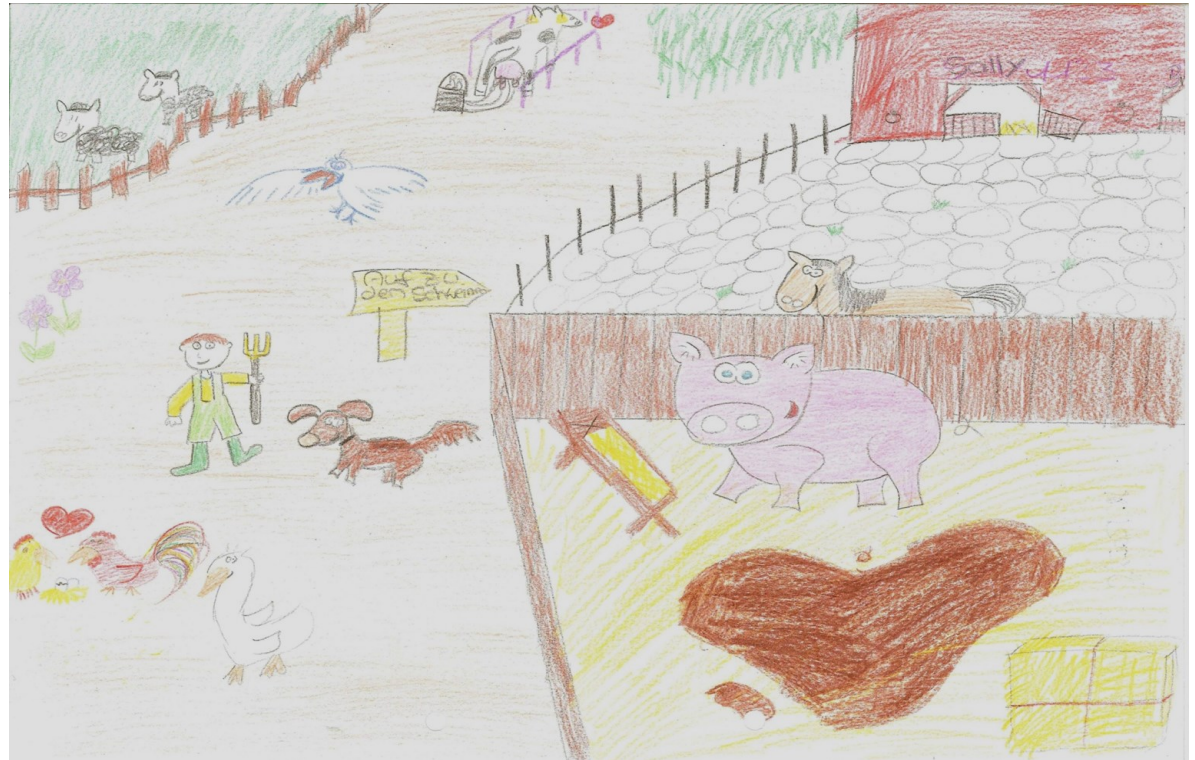


Conclusions

- European *consumers'* eat a large variety of pork products
- Pork products are characterized by eating occasion, which in turn are linked to different quality criteria
- European *consumers* can be segmented by frequency and variety of pork consumption
- European *citizens'* attitude to pig production is dominated by considerations on housing and environmental impact
- For about half of respondents, attitudes were weak
- The other half consists of animal welfare conscious, small scale farming supporters, and environmentally conscious
- Attitude to pig production is only weakly related to consumption, but people with weak attitudes eat somewhat more pork
- Not eating pork at all is *not* related to being critical to pig production



4. IS INFORMED CONSUMER CHOICE AN OPTION?



- ✓ Evidence suggests that **consumers seek more information about production methods** to make informed choices (Harper & Henson, 2001)
- ✓ In a EU survey (2005) **consumers stated they are very rarely or never able to identify** meat products from sustainable production methods



Directorate-General for Health & Consumers

ANIMAL WELFARE EDUCATION

The starting point of animal-welfare policy is the recognition that animals are sentient beings and should be treated in such a way that they do not suffer unnecessarily. It concerns the animals that are under human care (e.g. on the farm, during transport, or at the time of slaughter).

[Information](#) [Conference](#) [Drawing Contest](#) [Programs / Tools](#)

Everyone is responsible

1st International Conference on Animal Welfare Education

Education about animal welfare

Humans interact with animals for many reasons

To provide food, wool, leather and other materials...

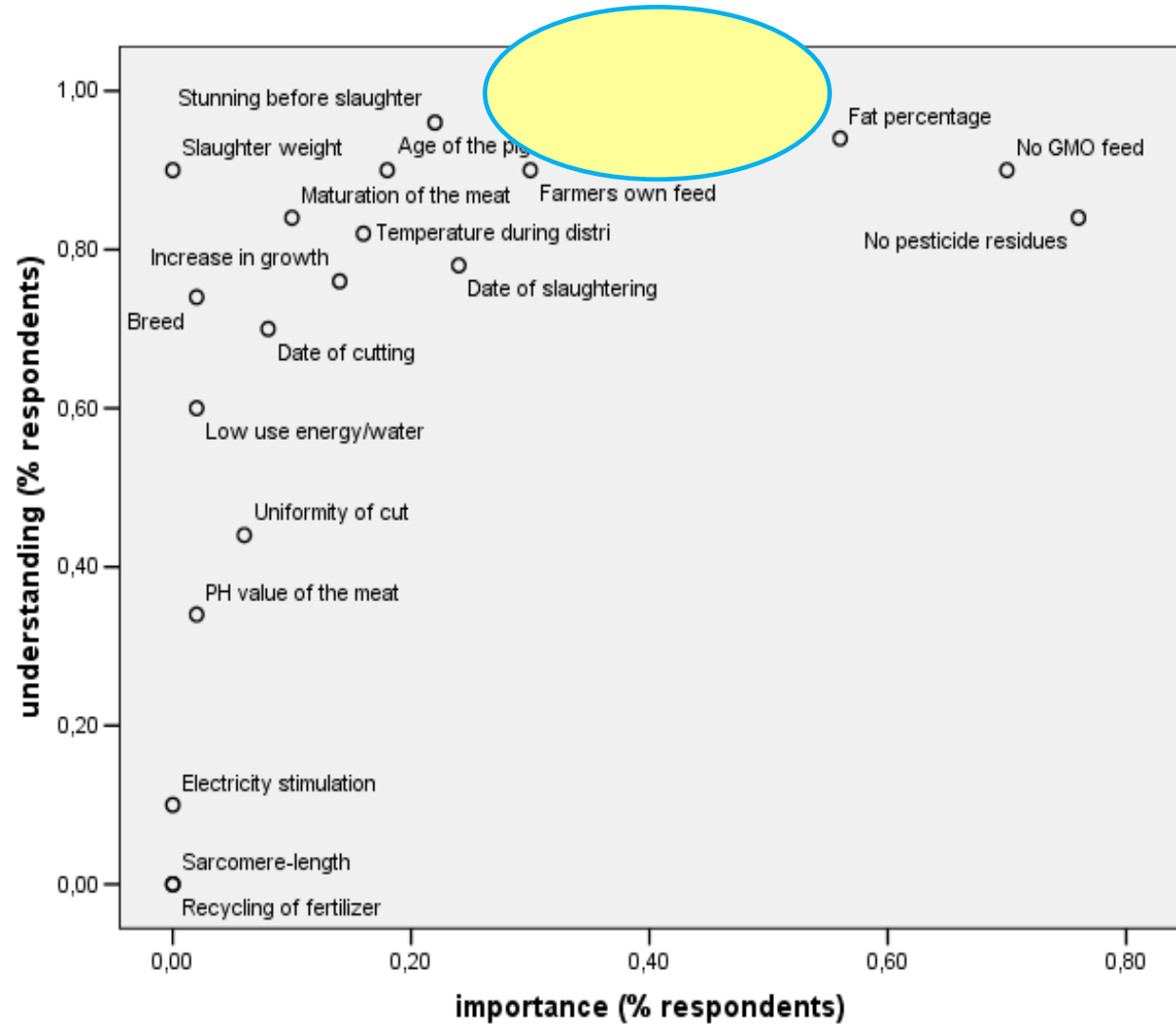
To guard property, assist the disabled, transport

The starting point of animal-welfare policy is the recognition that animals are sentient beings and should be treated in such a way that they do not suffer unnecessarily. It concerns the animals that are under human care (e.g. on the farm, during transport, or at the time of slaughter).

REGISTER ONLINE

SEE THE FIRST VIDEO ON ANIMAL WELFARE CREATED BY THE

✓ Interested in additional product information?



INFORMATION & CONSUMER LIKING



When **relevant information is provided**, consumers clearly express a preference for products obtained through sustainable (e.g. AW) methods ('**halo effect**') (Napolitano et al, 2007)

- ✓ **Expected liking** (subjects only received AW information)
- ✓ **Actual liking** (subjects received both AW information & the actual product)

However, **preference expressed without information** (only based on sensory properties) yielded opposite results

- ✓ **Experienced liking** in **blind tests** is significantly lower than actual liking and even less so than expected liking ('**negative disconfirmation**')

INFORMATION & CONSUMER WTP

(Low) price is not always the main determinant of purchasing, since consumers do not seek the **best value for money**

- ✓ Stated WTP **+5-20%** for AW pork (Dransfield et al, 2005).
- ✓ 57% of EU-27 consumers WTP **+5-25%** for AW eggs (EC, 2005)
- ✓ 44% of US consumers WTP **+5-10%** for AW meat (Swanson & Mench, 2005)

When relevant **information is provided**:

- ✓ **Positive expected WTP** for AW (subjects only received info)
- ✓ **Positive actual WTP** for AW (subjects received both info & the actual product)

However...

- ✓ **Small market shares** of sustainable meat reflect the **gap in citizens' attitudes and behaviour**
- ✓ Possibly due to **insufficient differentiation** based on expected liking (i.e. inferior eating quality)



INFO & PERCEIVED DIFFERENTIATION

Often, **confusion** is created from existence of **certification** schemes that operate at a **different degree of differentiation**

- ✓ In Denmark, need to **segregate the markets** for strong vs. medium levels of AW as a means **to improve consumer adoption** of clearly AW-certified products

(Heerwagen et al, 2014)

Willingness to pay estimates for 500 g of minced pork

| Name of product characteristic | WTP (DKK) | SD (DKK) |
|---------------------------------|-----------|----------|
| Alternative production | 8.25 | 0.81 |
| Domestic produce | 27.94 | 1.17 |
| Fat level 3–7 % | 31.35 | 1.64 |
| Fat level 8–13 % | 22.51 | 1.40 |
| Salmonella risk: 0 | 12.47 | 1.08 |
| Salmonella risk: 1 out of 1,000 | 7.80 | 1.03 |

The WTP estimates capture the marginal increase in the WTP of choosing a minced pork product when the given characteristic is present compared with a base level (indoor, produced outside Denmark, Salmonella risk above 5 out of 1,000, and fat more than 13 %)

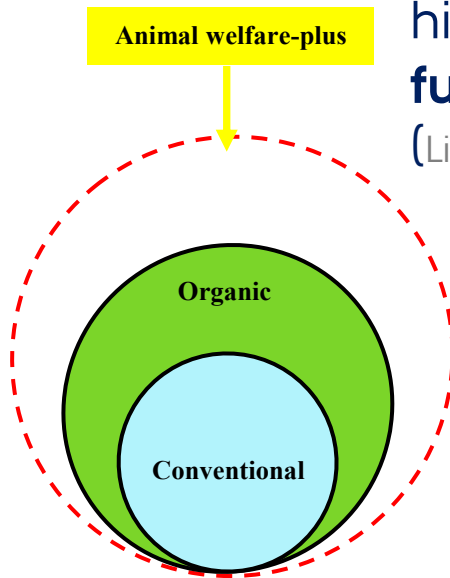
Source Mørkbak et al. (2010)



INFO & PERCEIVED DIFFERENTIATION

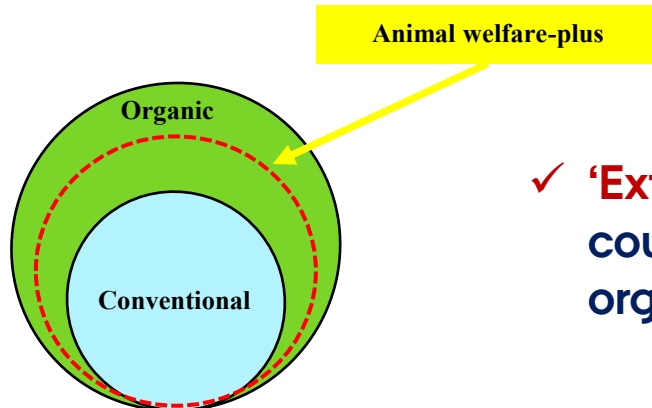
If **organic** livestock production systems already provide high animal welfare, will consumers notice and value **further improvements in the animal welfare standards?**

(Livia et al, in press)



- ✓ 'The products would be **valued by a small niche of consumers** (regular organic meat buyers), whose choices are guided by a broader set of ethical values...

... provided that **the products also offer good overall quality!**

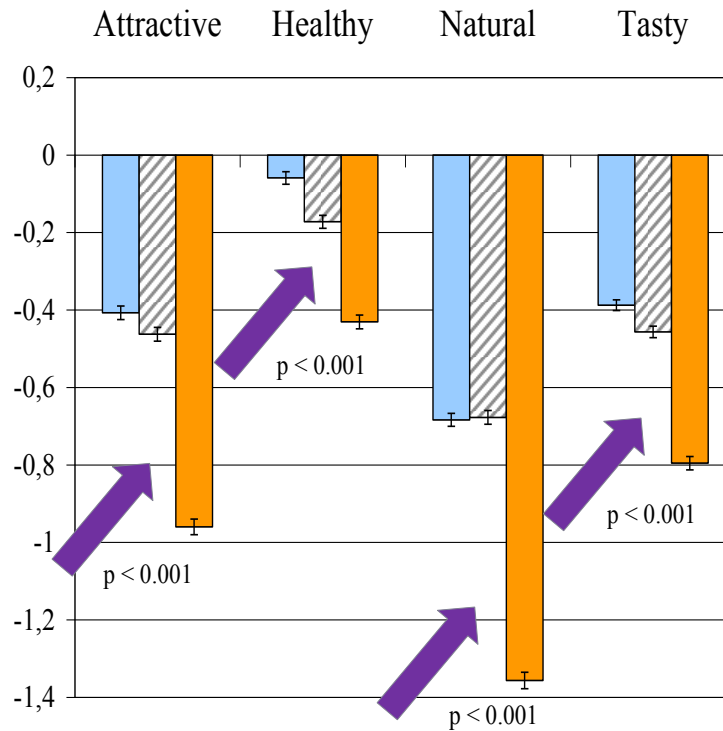


- ✓ '**Extra** animal welfare in meat production processes could **add more value to conventional** instead of organic products

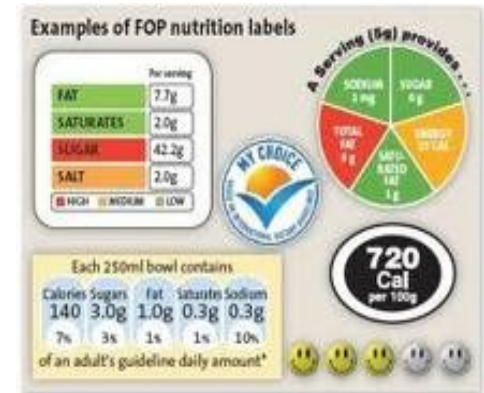
LABELING: THE FLIP SIDE OF THE COIN



✓ Inferences from health claims (Denmark)



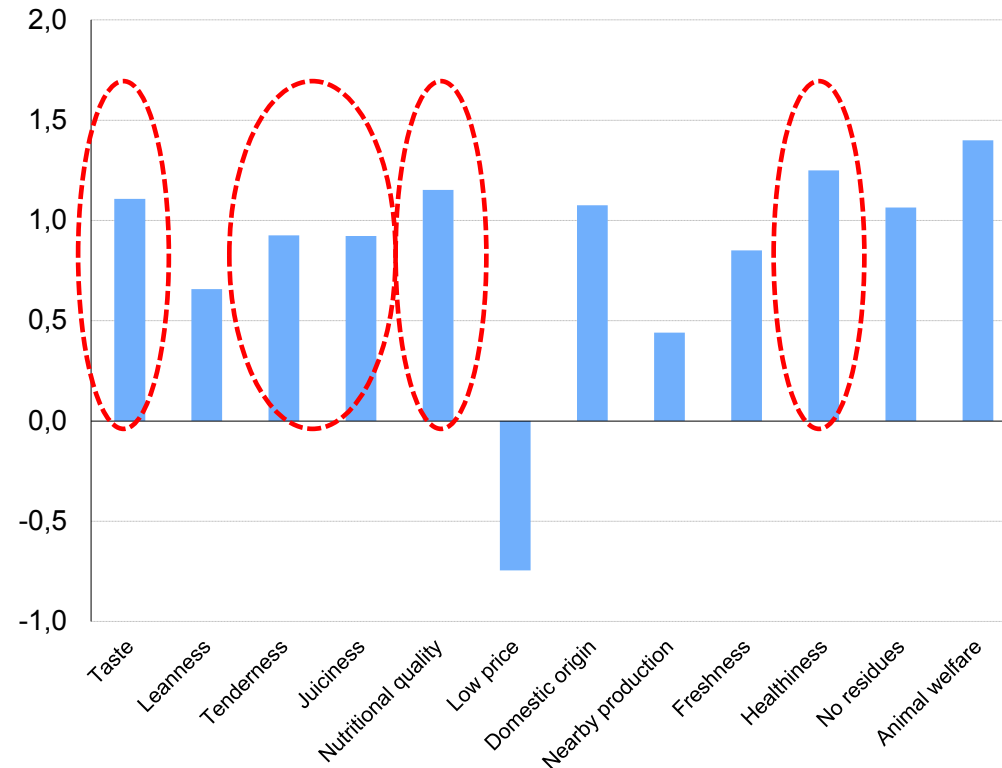
- Bread
- ▨ Yoghurt
- Pork





- ✓ Inferences from **organic chicken** (Denmark)





✓ Inferences from **free range chicken** (Denmark)

5. CONCLUSIONS & CHALLENGES



CONCLUSIONS AND CHALLENGES



- ✓ Global demand for animal protein is increasing rapidly, both in terms of **quantity** and **'quality'**, where **sustainability** plays an important role
- ✓ Ethical, consumer-oriented, meat products differentiation can take the form of:
 - ✓ **A. Optimization (i.e. **consumer-driven**) of current production processes**
and/or
 - ✓ **B. Development of new (**technology-driven**) production processes** (i.e. *in-vitro* or insect-based proteins), with questionable social acceptance potential

CONCLUSIONS AND CHALLENGES (CONT)

- ✓ **Optimization of production processes**, e.g. sustainability protocols (e.g. AW, organic), shows **great market potential**:
 - ✓ Rising consumer **interest, awareness** and -partially- **demand**
 - ✓ Alignment with **political priorities**
 - ✓ Endorsement by many **supply chain partners** to develop **new business models**:
 - **Ethics as value drivers**: closer monitoring of total costs and benefits of current vs. alternative production methods for society and industry to optimize their use of scarce resources
 - **Ethics as impetus for innovation** and cost reductions for the entire value chain due to improvements in energy efficiency and reduced waste



Optimization of current protein production process:

Organic meat

Animal-welfare meat

| | |
|---|--|
| 1. Driven by producers (farmers or SMEs) | 1. Driven by retailers |
| 2. Centrally regulated/ EU/national-level certification schemes in place | 2. Fragmented regulatory status/ private-body certification schemes in place of questionable credibility |
| 3. Existence of well-known/trustful label at the EU/national level | 3. Existence of company labels or labels assigned by certification bodies in selected countries of questionable trustworthiness |
| 4. Strong convergence between EU- level public policy and industry interests | 4. Unclear/uncoordinated mark of the relevant public and industry initiatives |



MAIN CHALLENGES / RESEARCH AGENDA

From a social/market point of view:

1. Citizen-consumer gap:

Investigation of the **ability of attitudes to guide behaviour**, so to define real sizes of sustainability markets and demand for sustainable protein

2. Disconfirmation paradigm:

In consumer expectations and experiences: primary development of **sustainable meat of superior eating quality**

3. Supply chain-wide view:

Reconfiguration of protein supply chains to foster **consumer value** at **affordable costs**, as well as **induce trust** along and among chain players

4. Harmonization of initiatives:

Drivers, regulations, labelling, interests of various stakeholders



Quo Vadis consumer sustainability demand?



How do consumers interpret **messages about nutritional quality, healthfulness & eco-friendliness** and how effective they are?



Augmented product

How can **(product positioning-based) expectations and later (taste-based) experiences match** in a way that promotes consumers' product acceptance?



Core product

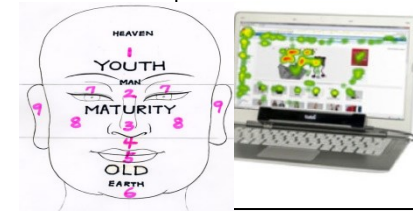
To which extent can **'responsible' product positioning be combined with improved taste?**

How can we **combine what consumers' see with what they feel** to develop quality perceptions?

Actual product



What kind of **insight is needed to create a product and a market position** that fully deliver the benefit and sells it in a believable way?





Consumer insights in support of food product development process!!!



MAPP – CENTRE FOR RESEARCH ON CUSTOMER RELATIONS IN THE FOOD SECTOR

Thank you!

