ETHICAL MEAT PRODUCTION & CONSUMER RESPONSE

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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**
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:

- 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 & Viaene (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

- Fish, Meat & Egg Products
- Meals & Meal Centers
- Desserts & Ice Cream
- Side Dishes
- Sauces & Seasonings
- Snacks
- Bakery
- Dairy
- Savoury Spreads
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

- Pasta
- Cold Cereals
- Seasonings
- Baking Mixes & Ingredients
- Baby Savoury Meals / Dishes
- Sweet Cookies & Biscuits
- Vegetables
- Confiture & Fruit Spreads
- Oils
- Meat Substitutes
- Spoonable Yogurt
- Chocolate Tablets
- Bread & Bread Products
- Crackers / Biscuits
- Meat Products

383 organic meat products
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 with the term “Animal welfare” by manufacturer top-10 companies (all European countries) – Mintel Gnpd, Apr. 2013

Number of Variants by Private Label

- Private Label (2037)
- Other (1891)

Marks & Spencer (709)
- Waitrose (269)
- Tesco (229)
- Conservas Isabel de Galicia (50)
- John West (52)
- Albert Heijn (60)
- Marlow Foods (61)
- Sainsbury's (84)
- Morrisons (75)
- Asda (65)

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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

- Coop (338)
- Aldi (331)
- Carrefour (281)
- Auchan (259)
- Andechser Molkerei Scheitz (223)
- Distriborg (202)
- REWE Markt (192)
- Monoprix (201)
- Hipp (638)
- Alnatura (582)
- Private Label (5798)
- Other (23444)
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.
WPI.1: Segmentation associated with attitudes and behaviour related to pig production and consumption of pork products

System of relevant values and attitudes

Perception of pig production

Meal patterns

Product/quality perception

Citizen role

Consumer role

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

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

<table>
<thead>
<tr>
<th>Profile no.</th>
<th>Profile description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>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.</td>
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<td>14</td>
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<tr>
<td>15</td>
<td>Consider a small farm with less than 100 sows &amp; 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.</td>
</tr>
</tbody>
</table>

**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

- Stock density
- Housing
- Soil/air/water
- Fat
- Quality

Legend:
- Stock density: <100, About 400, >800
- Housing: Slatted floor, Litter, Outdoor access
- Soil/air/water: Min, Some, Max
- Fat: Standard, Lower, Healthy
- Quality: Similar, Different, Key customer
Four segments

- Broad majority with weak attitudes: 53.7%
- Intensive farm supporters: 11.2%
- Animal welfare supporters: 10.4%
- Small farming supporters: 15.4%
Segment 3: Animal-welfare conscious

[Diagram showing various factors and their impact on animal welfare]

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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
Citizens and consumers

- Environment and nature
- Food and environment
- Animal welfare

Weak attitudes | Intensive farming | Animal welfare | Small farming

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Citizens and consumers

Grams of pork meat/day

Types of pork meat-based products

- Intensive farming
- Week attitudes
- Animal welfare
- Small farming
Citizens and consumers

- Small farming
- Animal welfare
- Weak attitudes
- Environmentally conscious

Light users | Varied eaters | Heavy users | Non-eaters
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
Interested in additional product information?

Based on Grunert, Skytte, Esbjerg, Poulsen & Hviid, 2002
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 LIKING
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

<table>
<thead>
<tr>
<th>Name of product characteristic</th>
<th>WTP (DKK)</th>
<th>SD (DKK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative production</td>
<td>8.25</td>
<td>0.81</td>
</tr>
<tr>
<td>Domestic produce</td>
<td>27.94</td>
<td>1.17</td>
</tr>
<tr>
<td>Fat level 3–7 %</td>
<td>31.35</td>
<td>1.64</td>
</tr>
<tr>
<td>Fat level 8–13 %</td>
<td>22.51</td>
<td>1.40</td>
</tr>
<tr>
<td>Salmonella risk: 0</td>
<td>12.47</td>
<td>1.08</td>
</tr>
<tr>
<td>Salmonella risk: 1 out of 1,000</td>
<td>7.80</td>
<td>1.03</td>
</tr>
</tbody>
</table>

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)
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)

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✓ Inferences from organic chicken (Denmark)
Inferences from free range chicken (Denmark)
5. CONCLUSIONS & 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:

<table>
<thead>
<tr>
<th>Organic meat</th>
<th>Animal-welfare meat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Driven by producers (farmers or SMEs)</td>
<td>1. Driven by retailers</td>
</tr>
<tr>
<td>2. Centrally regulated/ EU/national-level certification schemes in place</td>
<td>2. Fragmented regulatory status/ private-body certification schemes in place of questionable credibility</td>
</tr>
<tr>
<td>3. Existence of well-known/trustful label at the EU/national level</td>
<td>3. Existence of company labels or labels assigned by certification bodies in selected countries of questionable trustworthiness</td>
</tr>
<tr>
<td>4. Strong convergence between EU-level public policy and industry interests</td>
<td>4. Unclear/uncoordinated mark of the relevant public and industry initiatives</td>
</tr>
</tbody>
</table>
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
How do consumers interpret messages about nutritional quality, healthfulness & eco-friendliness and how effective they are?

To which extent can ‘responsible’ product positioning be combined with improved taste?

Quo Vadis consumer sustainability demand?

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

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

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!!!
Thank you!